GROUP 42

BODY

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HOOD

BODY DIAGNOSIS

INTRODUCTION TO HOOD DIAGNOSIS

M1421005800415

Wind noise at the hood may be caused by improper hood adjustment.

HOOD DIAGNOSTIC TROUBLESHOOTING STRATEGY

M1421005900371

Use these steps to plan your diagnostic strategy. If you follow them carefully, you will be sure that you have exhausted most of the possible ways to find a hood fault.

1. Gather information from the customer.
2. Verify that the condition described by the customer exists.
3. Find the malfunction by following the Symptom Chart.
4. Verify malfunction is eliminated.

SYMPTOM CHART

M1421006000412

Symptom	Inspection procedure	Reference page
Difficult locking and unlocking	1	P.42-6
Uneven body clearance	2	P.42-7
Uneven height	3	P.42-7

SYMPTOM PROCEDURES

INSPECTION PROCEDURE 1: Difficult Locking and Unlocking

DIAGNOSIS

STEP 1. Check that the release cable is routed correctly.

Q: Is the release cable routed correctly?
YES : Go to Step 2.
NO : Re-route the release cable. Then go to Step 4.

STEP 2. Check the engagement of the hood latch and hood striker.

Q: Are the hood latch and hood striker engaged correctly?
YES : Go to Step 3.
NO : Adjust the hood latch (Refer to P.42-8). Then go to Step 4.

STEP 3. Check for proper lubrication of release cable.

Q: Is the release cable properly lubricated?
YES : Go to Step 4.
NO : Lubricate, then go to Step 4.

STEP 4. Retest the system.

Q: Does the hood lock operate easily?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 2: Uneven Body Clearance

DIAGNOSIS

STEP 1. Check the clearance around the hood.

Q: Is the clearance around the hood even?
YES : Go to Step 2.
NO : Adjust the hood (Refer to P.42-7). Then go to Step 2.

STEP 2. Retest the system.

Q: Are the clearances between body panels even?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 3: Uneven Height

DIAGNOSIS

STEP 1. Check the hood damper height.

Q: Is the hood damper height proper?
YES : Go to Step 2.
NO : Adjust the hood damper (Refer to P.42-8). Then go to Step2.

STEP 2. Retest the system.

Q: Are the hood and body height even?
YES : The procedure is complete.
NO : Return to Step 1.

ON-VEHICLE SERVICE

ADJUSTMENT OF CLEARANCE AROUND HOOD

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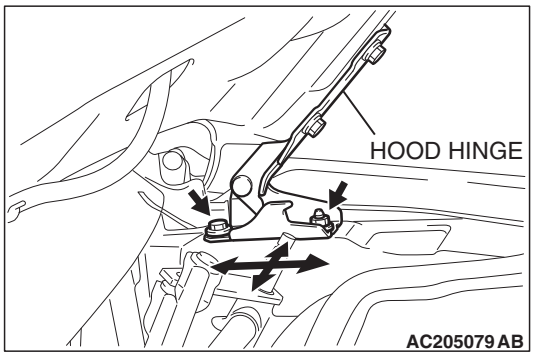

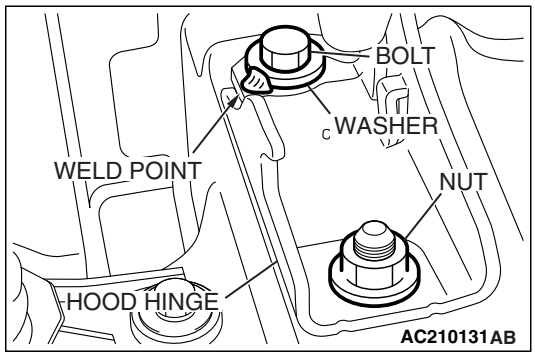

Detach the fender hole cover (Refer to GROUP 51, Windshield Wiper P.51-14). Then loosen the hood hinge mounting nuts and bolts as shown, and adjust the hood by moving it until the clearance around it is even.

NOTE: If the hood hinge mounting bolt washers are welded, grind off the welding according to the procedure below beforehand.

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1. *Remove the hood hinge (Refer P.42-9).*
2. *Use a chisel or grinder to release the hood hinge mounting bolt washer, which is welded to the hood hinge.*
3. *On completion, paint the affected area with a suitable touch-up brush to prevent corrosion.*
4. *Install the hood hinge (Refer P.42-9).*

ALIGNMENT OF HOOD LATCH AND STRIKER

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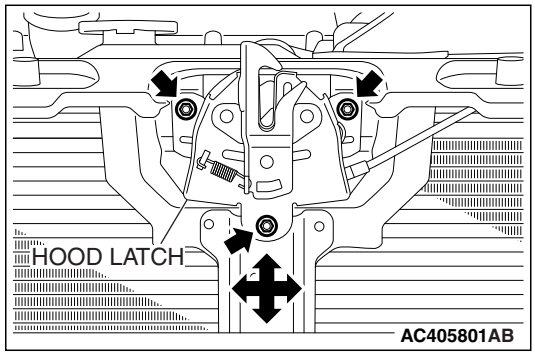

Note the routing of the hood release cable, and then loosen the hood latch mounting bolts. Then align the latch with the striker by moving the hood latch. After alignment, ensure that the hood can be locked and unlocked correctly.

ADJUSTMENT OF HOOD HEIGHT

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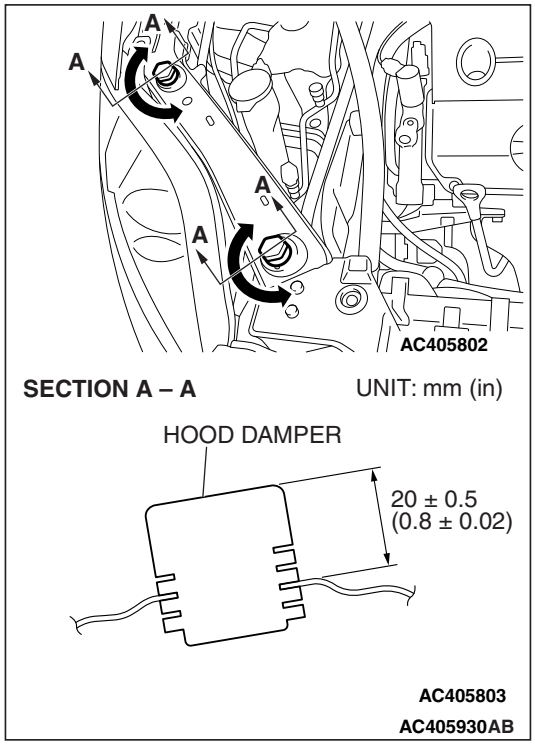


Turn the hood damper until its height is as shown. If the hood height is still not even at left and right sides, turn the hood damper further until the hood height is even. The hood damper height is altered by roughly 3mm (0.1 inch) when turning the hood damper one rotation.

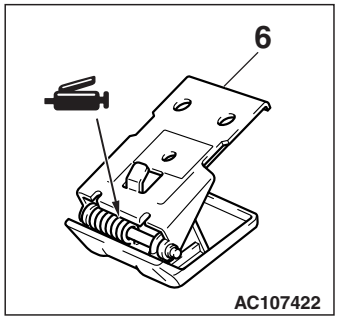
NOTE: If a rattling noise (clacking noise) is caused by the vibration of the hood while driving, adjust the hood damper height so that the hood damper contacts the hood securely.

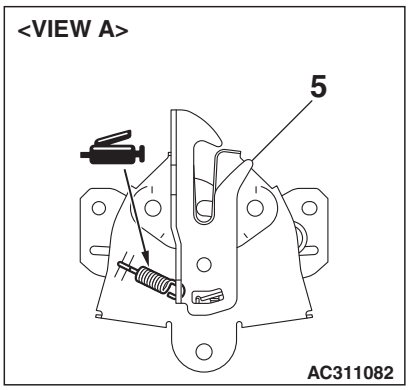
HOOD

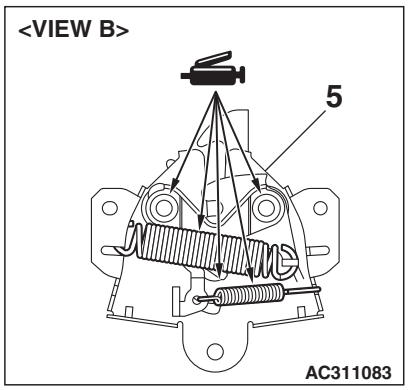
REMOVAL AND INSTALLATION

M1421001601520

Post-installation Operation
- Adjustment of Clearance Around Hood (Refer to P.42-7).
- Alignment of Hood Latch and Striker (Refer to P.42-8).
- Hood Height Adjustment (Refer to P.42-8).







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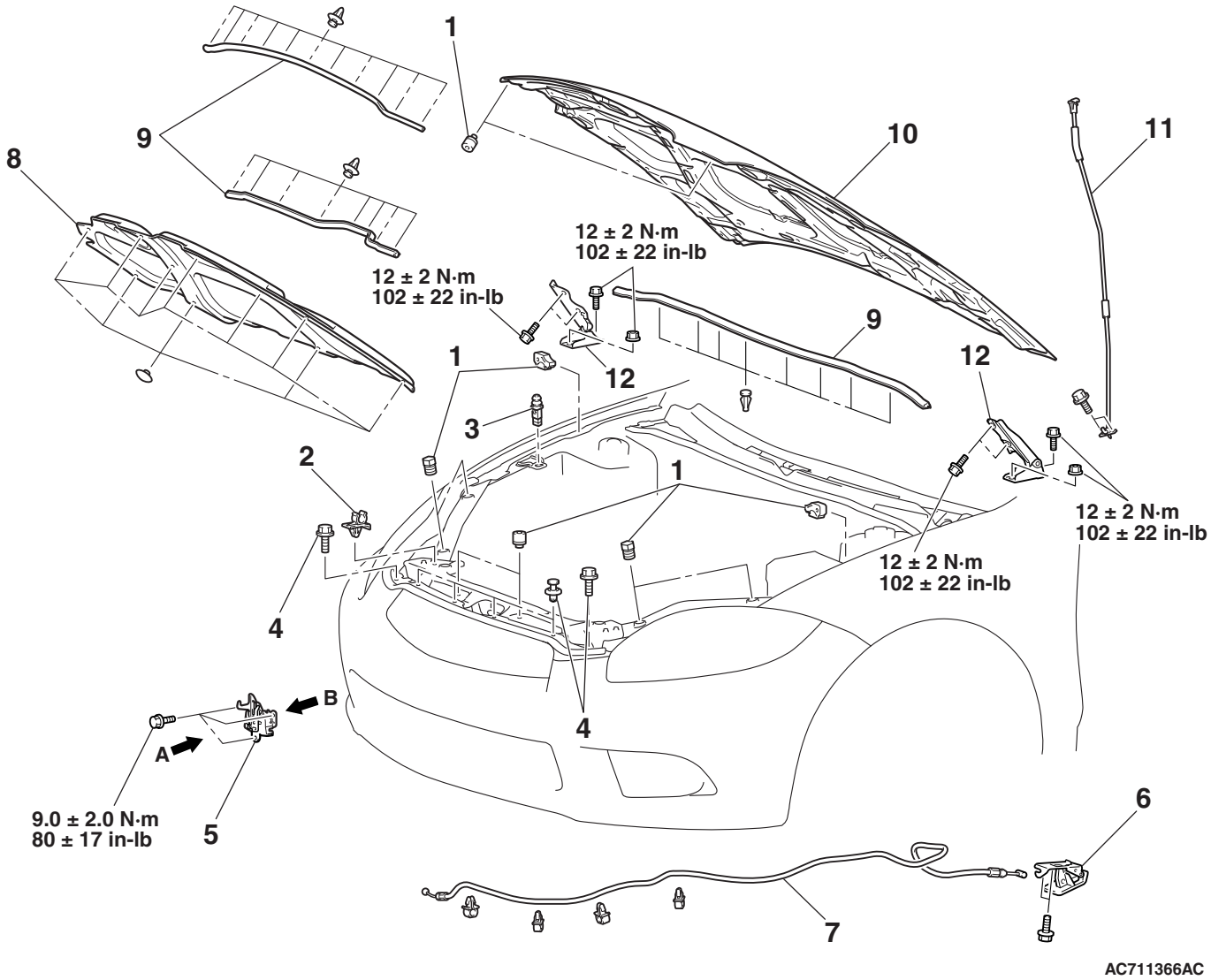

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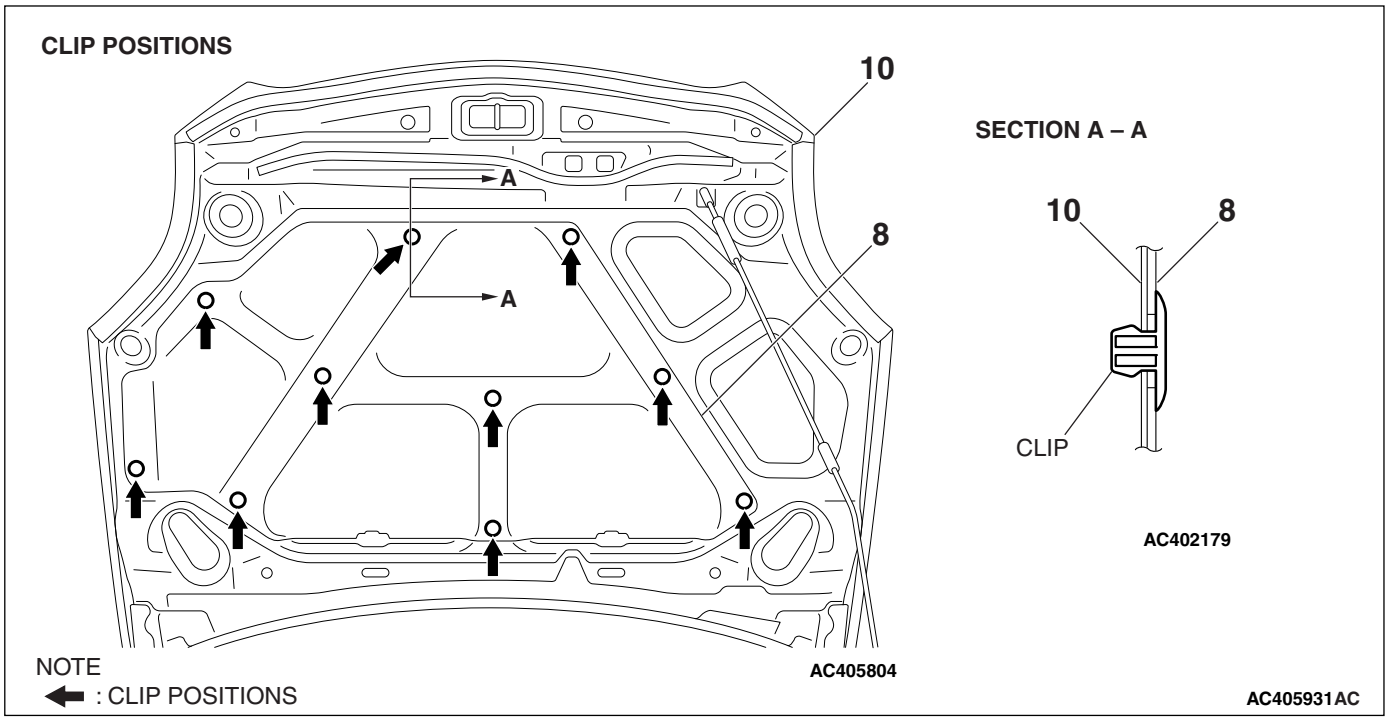

REMOVAL

1. HOOD DAMPER
2. CLIP

>>A<< 3. HOOD SWITCH <ECLIPSE SPYDER>

HOOD LATCH AND HOOD LOCK RELEASE CABLE REMOVAL STEPS

4. FRONT BUMPER MOUNTING BOLTS AND CLIPS
5. HOOD LATCH

- SPLASH SHIELD (REFER TO P.42-12.)
- FRONT BUMPER ASSEMBLY (REFER TO GROUP 51, FRONT BUMPER AND RADIATOR GRILLE P.51-2.)
- HEADLIGHT ASSEMBLY <LH> (REFER TO GROUP 54A, HEADLIGHT AND FRONT COMBINATION LIGHT P.54A-143.)

<<A>>

HOOD LATCH AND HOOD LOCK RELEASE CABLE REMOVAL STEPS (Continued)

6. HOOD LOCK RELEASE HANDLE
7. HOOD LOCK RELEASE CABLE

HOOD AND HOOD HINGE REMOVAL STEPS

8. HOOD INSULATOR
9. HOOD WEATHERSTRIP

- WINDSHIELD WASHER HOSE, WINDSHIELD WASHER NOZZLE (REFER TO GROUP 51, WINDSHIELD WASHER P.51-19.)

10. HOOD
11. HOOD SUPPORT ROD

- FENDER HOLE COVER (REFER TO GROUP 51, WINDSHIELD WIPER P.51-14.)

12. HOOD HINGE

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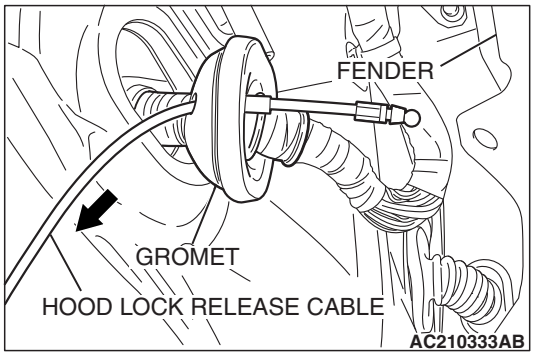
REMOVAL SERVICE POINT

<<A>> HOOD LOCK RELEASE CABLE REMOVAL

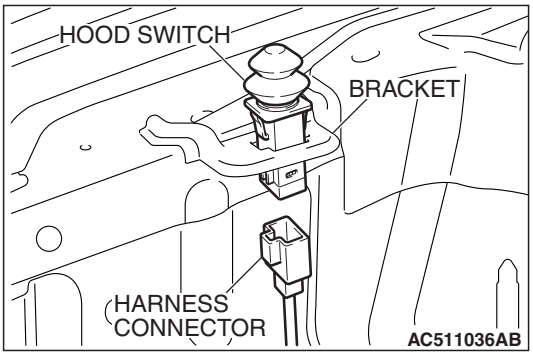


Release the grommet as shown, and pull out the hood lock release cable in the arrow direction (passenger compartment side).

NOTE: If you attempt to pull out the hood lock release cable in the opposite direction, the end of the hood lock release cable will engage the grommet and prevent cable removal.

INSTALLATION SERVICE POINT

>>A<< HOOD SWITCH INSTALLATION



1. Insert the hood switch to the bracket halfway.
2. Insert the harness connector to the hood switch.
3. Install the hood switch to the bracket.

INSPECTION

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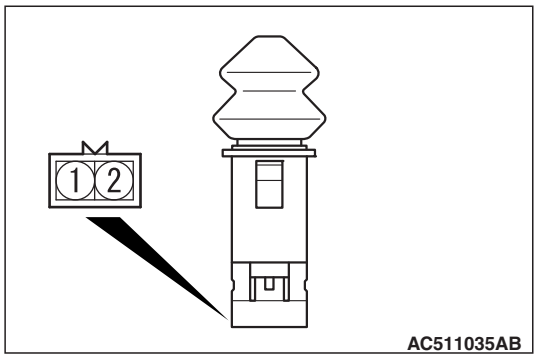
HOOD SWITCH CHECK



Switch position	Tester connection	Specified condition
Released (ON)	1 – 2	Less than 2 ohms
Depressed (OFF)	1 – 2	Open circuit

FENDER

REMOVAL AND INSTALLATION

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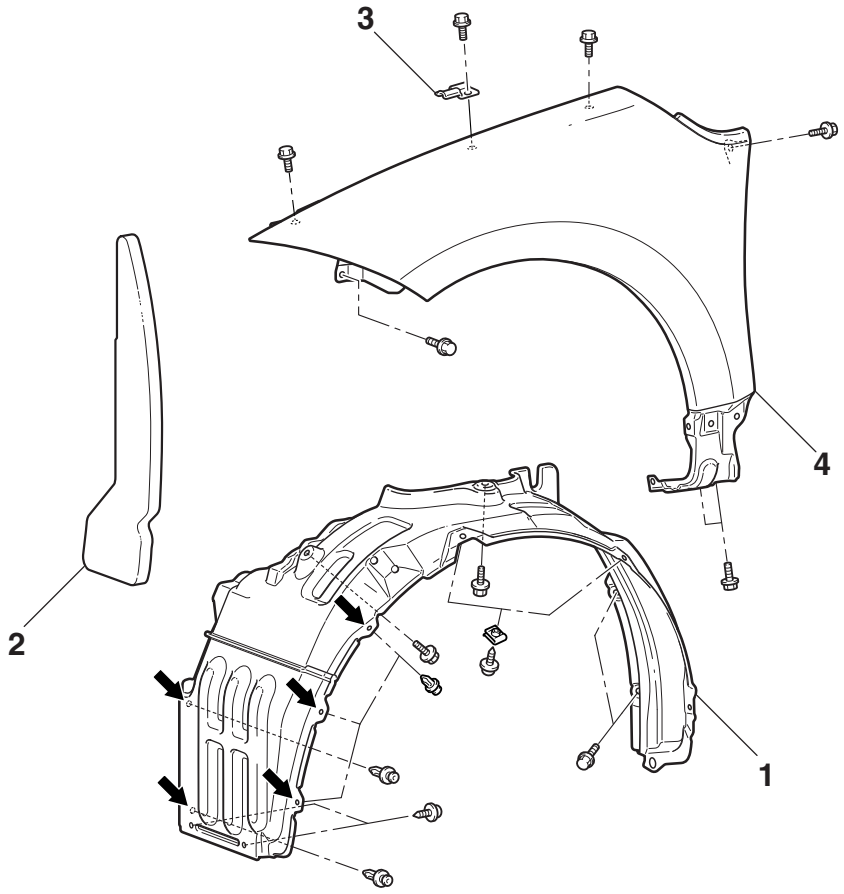

NOTE
◀ : CLIP POSITIONS

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REMOVAL STEPS

- FRONT SIDE AIR DAM (REFER TO GROUP 51, SIDE AIR DAM P.51-7.)

1. SPLASH SHIELD
2. FRONT PILLAR PAD

- FRONT BUMPER ASSEMBLY (REFER TO GROUP 51, FRONT BUMPER AND RADIATOR GRILLE P.51-2.)

REMOVAL STEPS (Continued)

- HEADLIGHT ASSEMBLY REMOVAL AND INSTALLATION (REFER TO GROUP 54A, HEADLIGHT AND FRONT COMBINATION LIGHT P.54A-143.)
- FRONT DELTA GARNISH (REFER TO GROUP 51, GARNISHES AND MOLDING P.51-5.)

3. HOOD DAMPER BRACKET
4. FRONT FENDER

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FUEL FILLER LID

REMOVAL AND INSTALLATION

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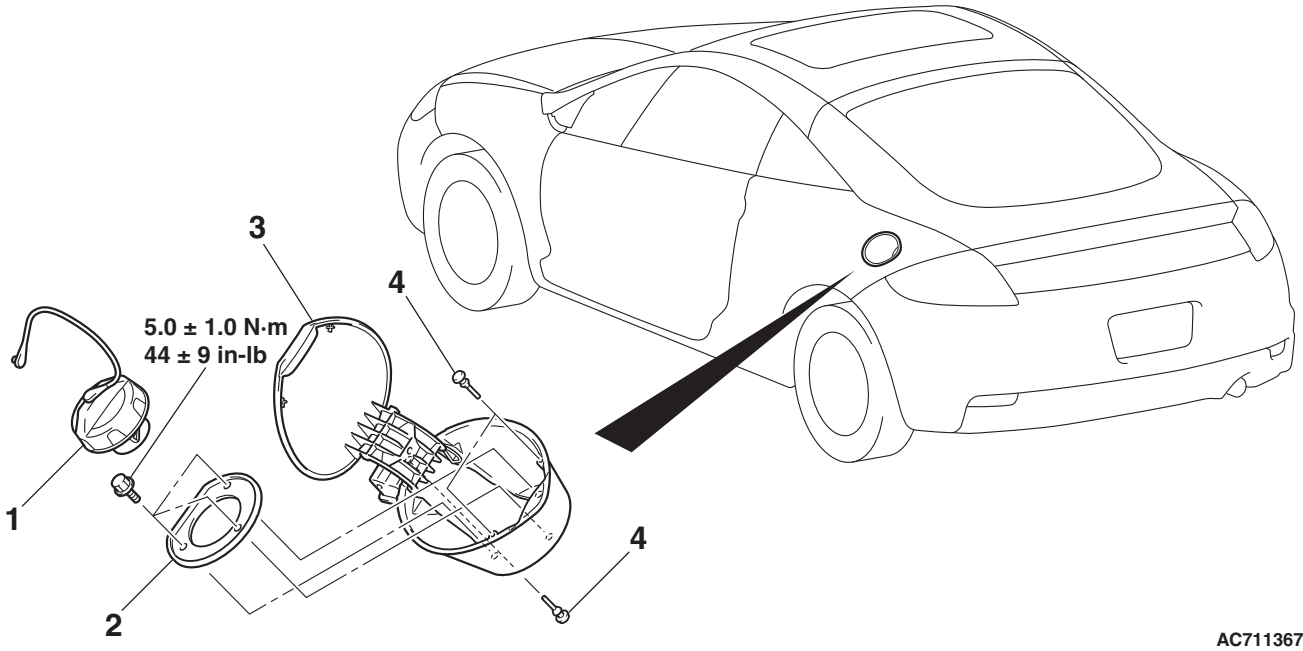

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REMOVAL STEPS

1. FUEL FILLER CAP
2. FUEL FILLER NECK REINFORCEMENT PLATE

REMOVAL STEPS (Continued)

3. FUEL FILLER LID
4. FUEL FILLER LID DAMPER

STRUT TOWER BAR

REMOVAL AND INSTALLATION

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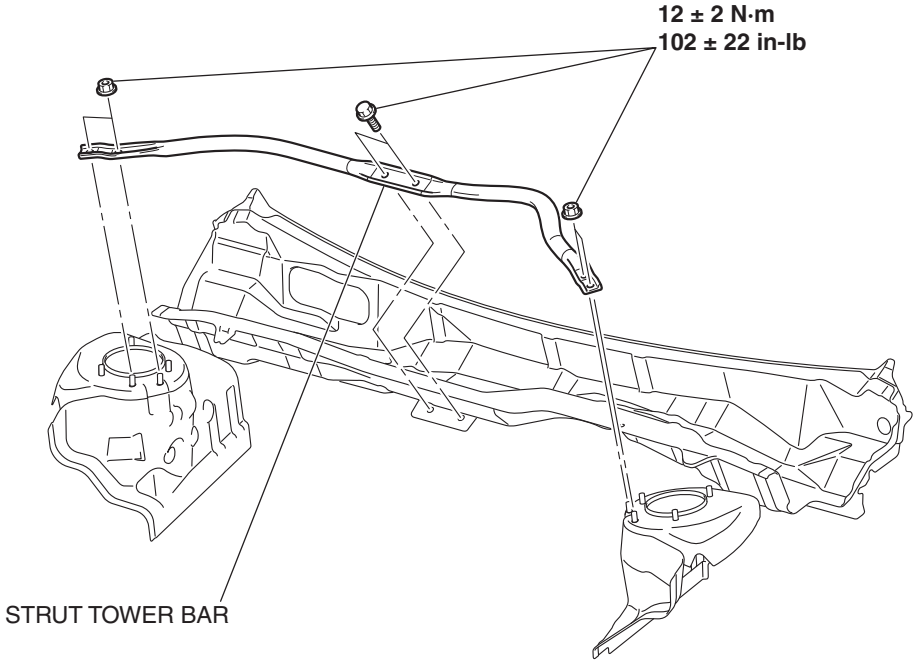

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WINDOW GLASS

GENERAL

M1422000100588

The windshield, quarter window glass and liftgate window glass are attached by an urethane-base adhesive to the window frame. This adhesive provides improved glass holding and sealing, and also gives body openings a greater structural strength.

ITEMS

Item	Application	Quantity
Wire (diameter × length)	For cutting adhesive	Five pieces of wire 0.6 mm × 1 m (0.02 in × 3.3 ft)
Glass adhesive knife	For cutting adhesive	One
Sealant gun	For adhesive application	One
Wiping shop towels	-	As required
Sealer	For prevention of water and wind leaks after adhesive application	As required
3M™ AAD Part No. 8906 or equivalent	For cleaning	As required
Glass holder MB990480	For securing of window glass	Two

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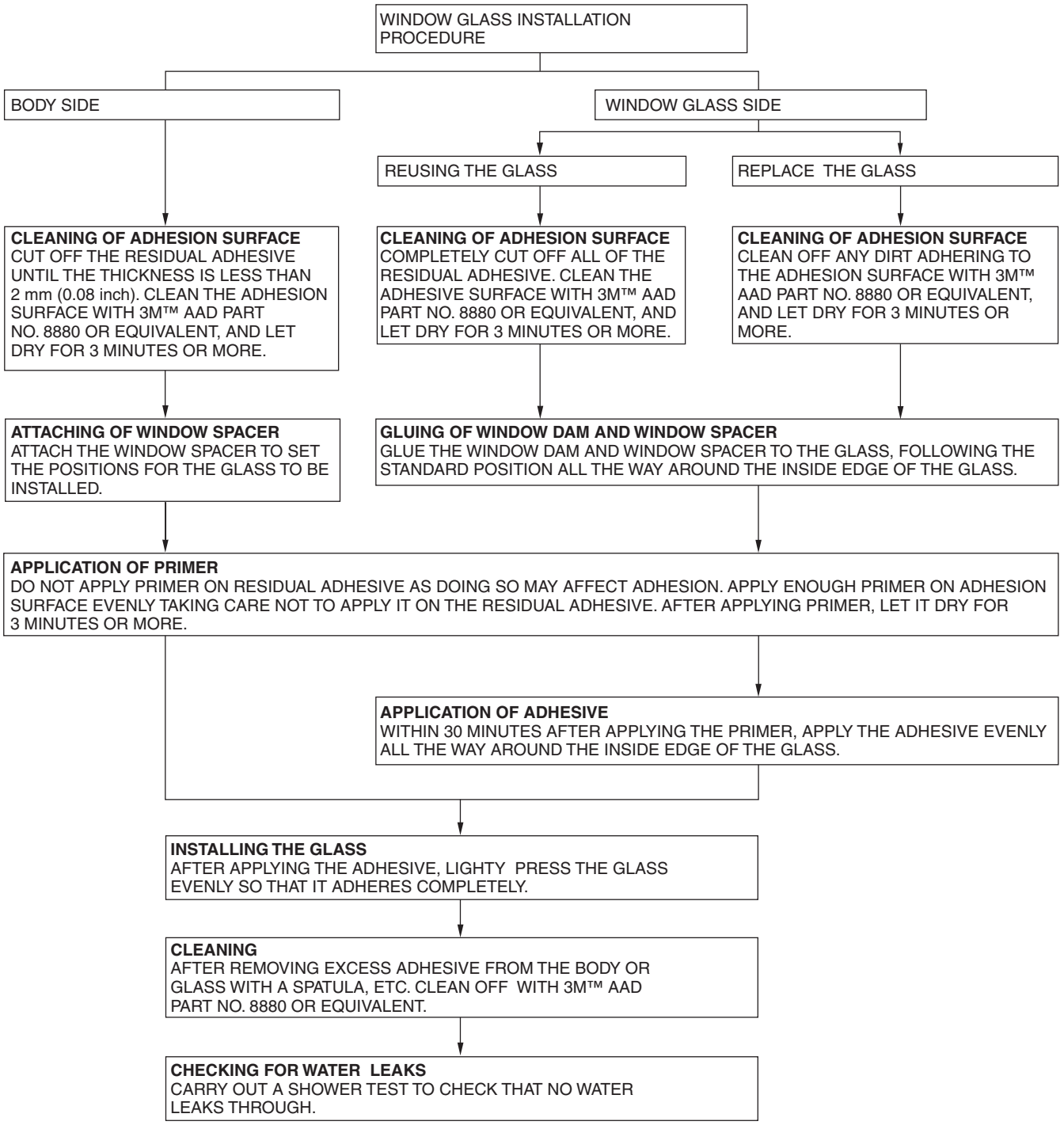
WINDOW GLASS INSTALLATION

⚠ CAUTION

Do not apply primer on the adhesion surface, as adhesion may be reduced.



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WINDOW GLASS DIAGNOSIS

INTRODUCTION TO WINDOW GLASS DIAGNOSIS

M1422006700287

If water emerges from the following points, there is a problem in the seal or body flange.

- Windshield
- Quarter window glass
- Liftgate window glass

WINDOW GLASS DIAGNOSTIC TROUBLESHOOTING STRATEGY

M1422006800273

Use these steps to plan your diagnostic strategy. If you follow them carefully, you will be sure that you have exhausted most of the possible ways to find a window glass fault.

1. Gather information from the customer.
2. Verify that the condition described by the customer exists.
3. Find the malfunction by following the Symptom Chart.
4. Verify malfunction is eliminated.

WINDOW GLASS DIAGNOSTIC TROUBLE SYMPTOM CHART

M1422006900333

Symptom	Inspection procedure	Reference page
Water leak through windshield	1	P.42-16
Water leak through quarter window glass		
Water leak through liftgate window glass		

SYMPTOM PROCEDURES

INSPECTION PROCEDURE 1: Water Leak Through Windshield/Water Leak Through Quarter Window Glass/Water Leak Though Liftgate Window Glass

DIAGNOSIS

STEP 1. Check if the seal is faulty.

Q: Is the seal faulty?
YES : Repair the seal, then go to Step 3.
NO : Go to Step 2.

STEP 2. Check if the body flange is deformed.

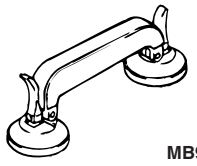
Q: Is the body flange deformed?
YES : Replace the body flange, then go to Step 3.
NO : Go to Step 3.

STEP 3. Retest the system.

Q: Is any water leaking?
YES : Return to Step 1.
NO : This diagnosis complete.

SPECIAL TOOL

M1422000600301

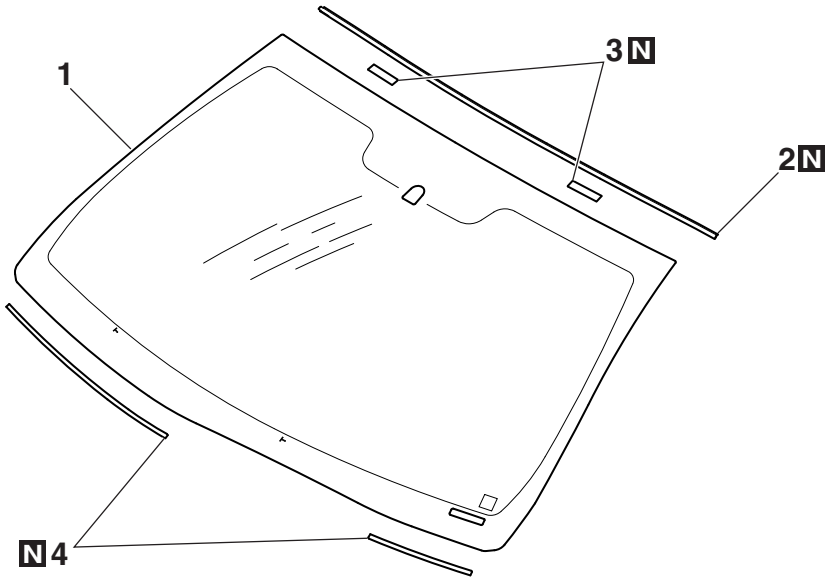
Tool	Tool number and name	Supersession	Application
 MB990480	MB990480 Glass holder	General service tool	Removal and installation of window glass

WINDSHIELD

REMOVAL AND INSTALLATION

M1422001000603

Pre-removal and Post-installation Operation
- Front Deck Garnish Removal and Installation (Refer to GROUP 51, Windshield Wiper and Washer P.51-14).
- Front Pillar Garnish and Roof Drip Molding Removal and Installation (Refer to GROUP 51, Garnish and Molding P.51-5).
- Front Pillar Trim Removal and Installation (Refer to GROUP 52A, Trims P.52A-30).
- Inside Rear View Mirror Removal and Installation (Refer to GROUP 52A, Inside Rear View Mirror P.52A-38).



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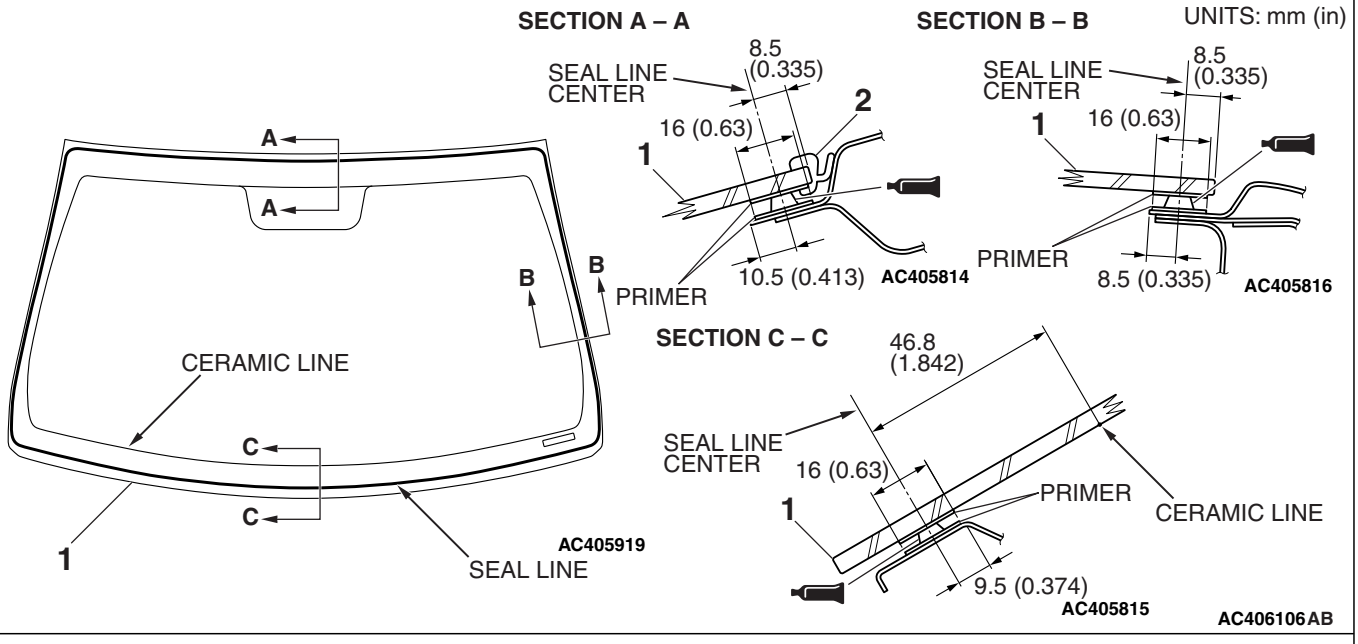


ADHESIVE: 3M™ AAD PART NO. 8609 SUPER FAST URETHANE AND 3M™ AAD PART NO. 8608 SUPER FAST URETHANE PRIMER OR EQUIVALENT

REMOVAL STEPS

<<**A**>> >>**B**<< 1. WINDSHIELD
>>**A**<< 2. WINDSHIELD MOLDING

REMOVAL STEPS (Continued)

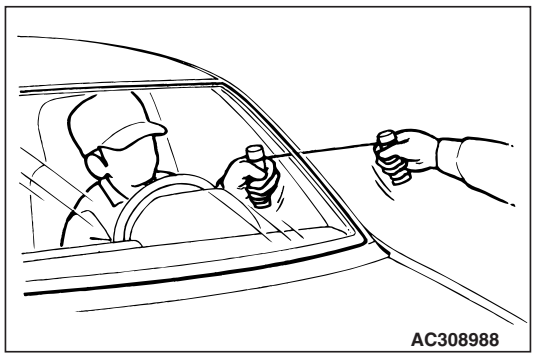
>>**A**<< 3. GLASS STOPPER
>>**A**<< 4. WINDSHIELD SPACER

TSB Revision

Required Special Tool:
- MB990480: Glass Holder

REMOVAL SERVICE POINT

<<A>> WINDSHIELD REMOVAL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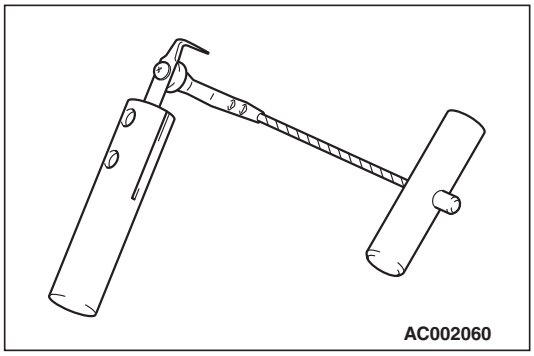
1. To protect the body (paint surface), apply cloth tape to all body areas around the installed windshield.
2. Make mating marks on the windshield and body.
3. Using piano wire.
   (1) Using a sharp-point drill, make a hole in the windshield adhesive.
   (2) Pass the piano wire from the inside of the vehicle through the hole.

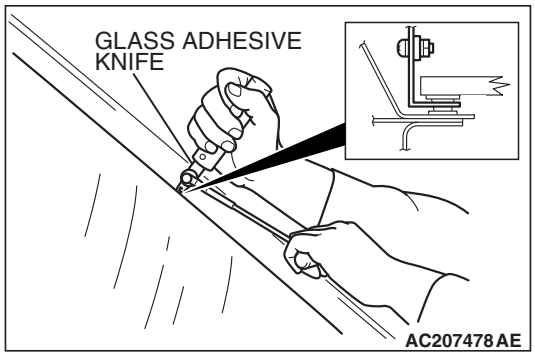
⚠ CAUTION
Do not let the piano wire touch the edge of the windshield.

   (3) Pull the piano wire alternately from the inside and outside along the windshield to cut the adhesive.


AC002060

⚠ CAUTION
Inserting the glass adhesive knife too deeply into windshield adhesive may damage windshield.

4. Using glass adhesive knife
   Keep glass adhesive knife at right angles with the windshield edge, and put the blade at windshield edge and surface. Then cut away adhesive along the windshield edge.



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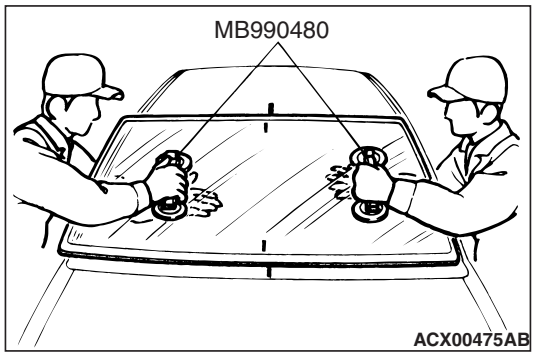

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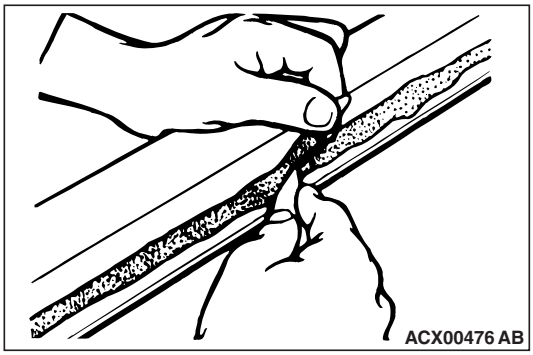
5. Use special tool MB990480 to remove the windshield.



⚠ CAUTION

- **Be careful not to remove more adhesive than is necessary.**
- **Be careful also not to damage the paint on the body surface with the knife. If the paint is damaged, repair the damaged area with touch-up paint.**

6. Use a knife to cut away the remaining adhesive so that the thickness is within 2 mm (0.08 inch) around the entire circumference of the body flange.
7. Finish the flange surfaces so that they are smooth.

⚠ CAUTION

Allow the cleaned area to dry for at least three minutes. Do not touch any surface that has been cleaned.

8. When reusing the windshield, remove the adhesive still adhering to the windshield, and clean with 3M™ AAD Part number 8880 or equivalent.
9. Clean the body side in the same way.

INSTALLATION SERVICE POINTS

>>A<< WINDSHIELD SPACER/GLASS STOPPER/WINDSHIELD MOLDING INSTALLATION

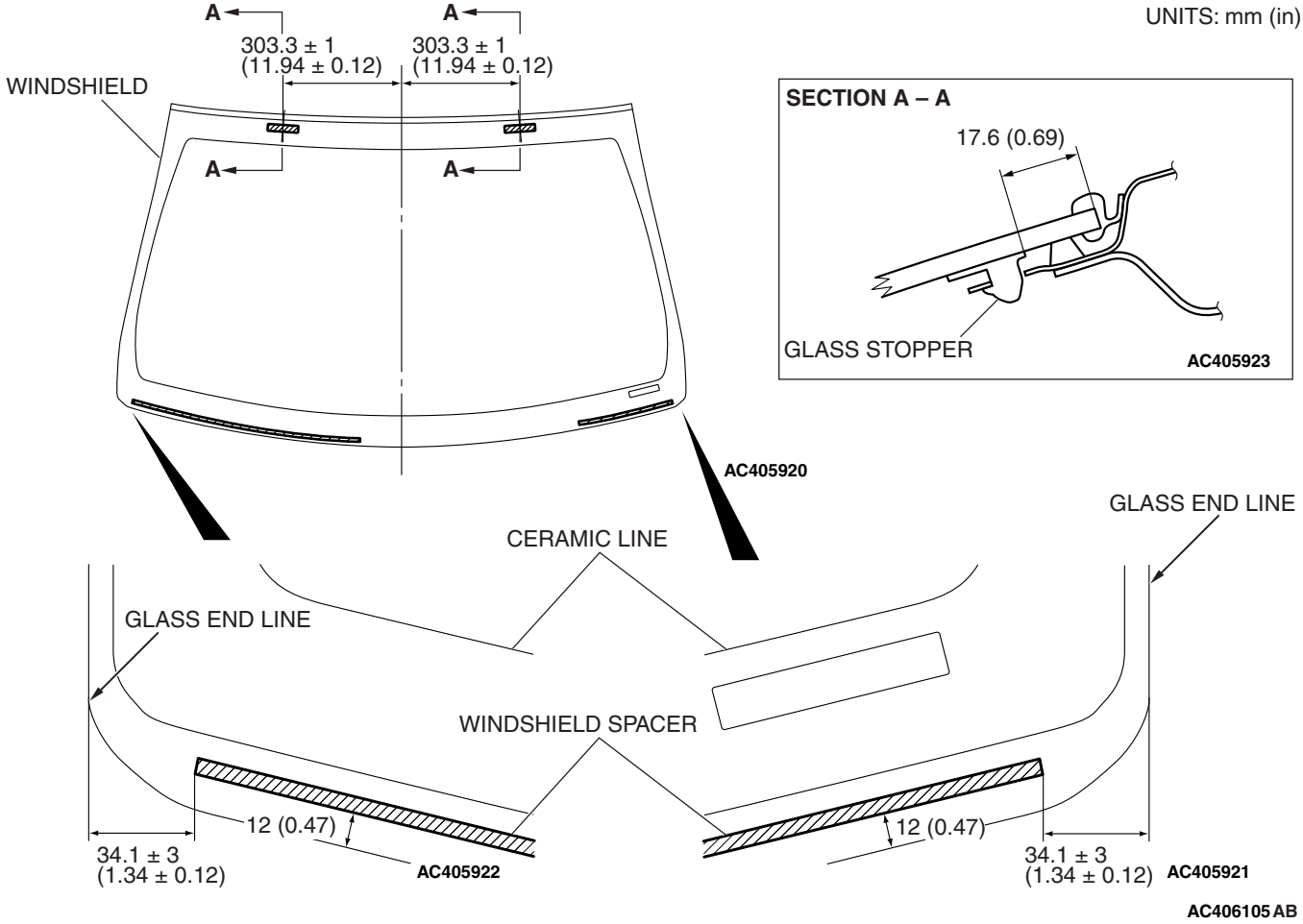
⚠ CAUTION

Leave the degreased parts for 3 or more minutes to dry well, before starting on the next step. Do not touch the degreased parts.

1. Use 3M™ AAD Part number 8880 or equivalent to degrease the inside and outside of the windshield and the body flanges.

WINDSHIELD SPACER AND GLASS STOPPER INSTALLATION POSITION

UNITS: mm (in)



AC406105 AB

2. Install the windshield spacer and glass stoppers to the specified positions so that there are no adrift or warped surfaces inside the windshield.
3. Install the windshield moldings to the windshield.

>>B<<WINDSHIELD INSTALLATION

1. When replacing the windshield, temporarily set the windshield against the body, and place a mating mark on the windshield and body.

⚠ CAUTION

- **The primer strengthens the adhesive, so be sure to apply it evenly around the entire circumference. However, a too thick application will weaken the adhesive.**
- **Do not touch the coated surface.**
- **Do not apply the primer on the remaining adhesive because of weakening the adhesive.**

2. Soak a sponge in the primer, and apply evenly to the windshield and the body in the specified places.
3. Allow the windshield to dry for at least three minutes after applying primer.

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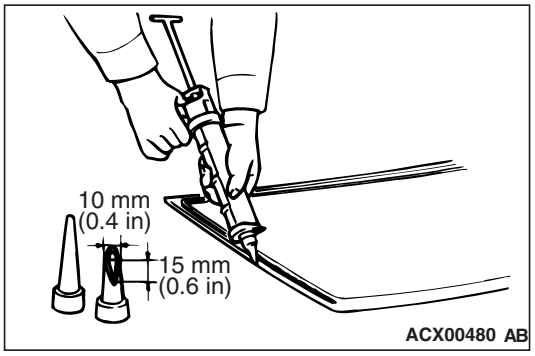


4. Fill a sealant gun with adhesive. Then apply the adhesive evenly around the windshield within 30 minutes after applying the primer.

   NOTE: Cut the tip of the sealant gun nozzle into a V shape to simplify adhesive application.

5. Align the mating marks on the windshield and the body, and lightly press the windshield evenly so that it adheres completely.
6. Use a spatula or similar tool to remove any excessive adhesive. Clean the surface with 3M™AAD Part number 8880 or equivalent. Avoid moving the vehicle until the adhesive sets.

⚠ CAUTION

- **Do not move the vehicle unless absolutely necessary.**
- **When testing for water leakage, do not apply strong water pressure.**

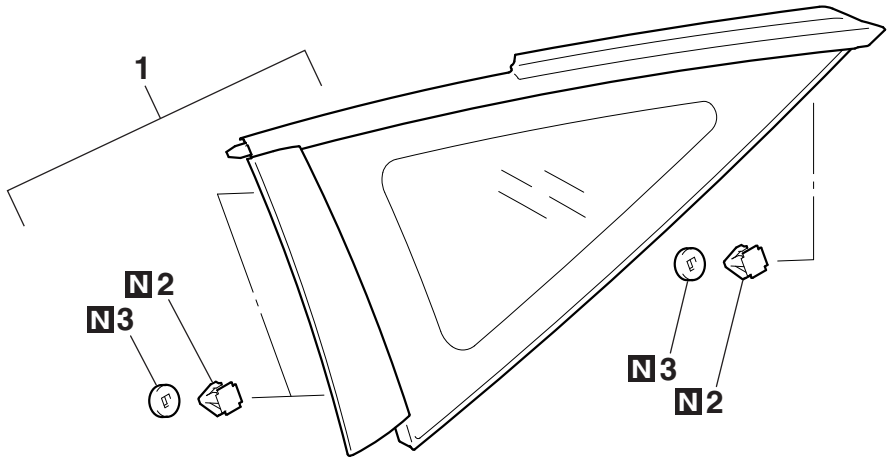
7. Wait 30 minutes or more, and then test for water leakage.

QUARTER WINDOW GLASS

REMOVAL AND INSTALLATION

M1422002500496

Pre-removal and Post-installation Operation
- Center Pillar Upper Trim and Rear pillar Trim Removal and Installation (Refer to GROUP 52A, Trims P.52A-30).
- Door Window Weatherstrip Holder Removal and Installation (Refer to P.42-93).



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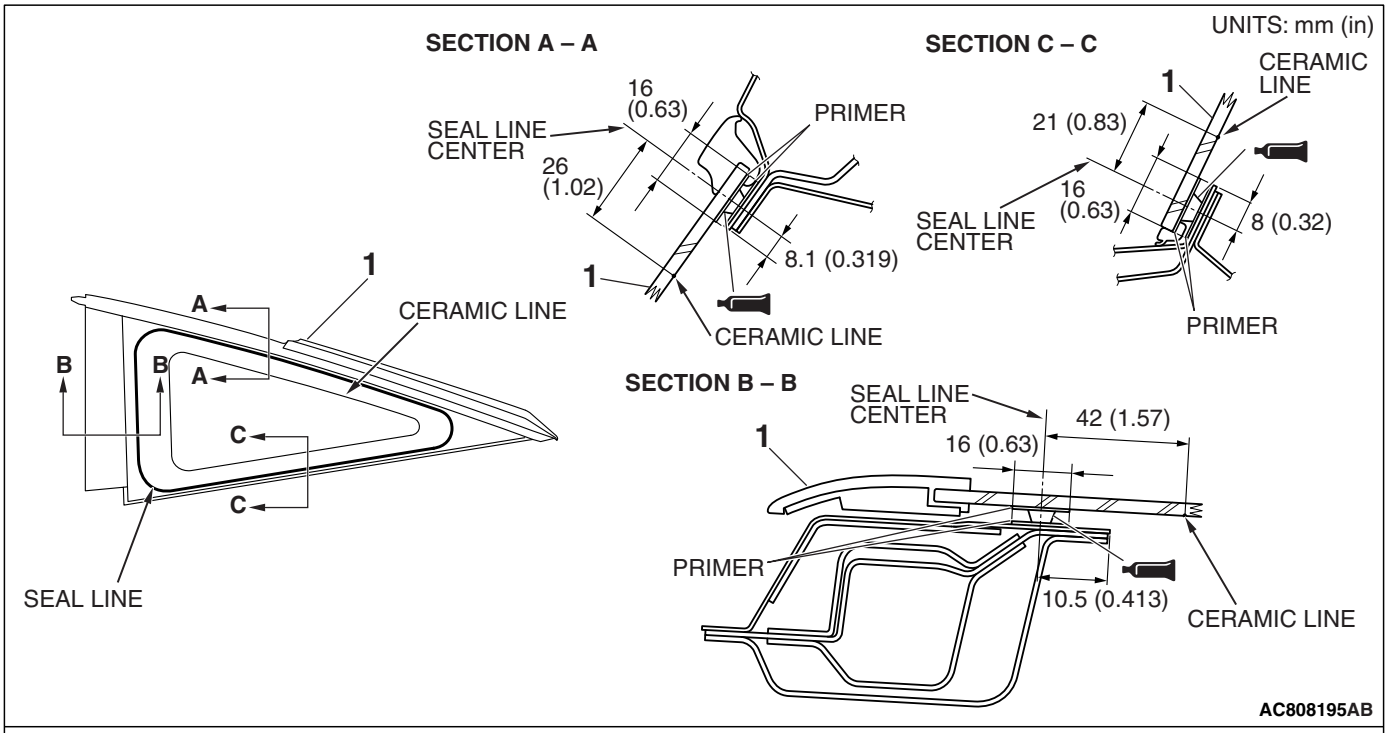

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ADHESIVE: 3M™ AAD PART NO. 8609 SUPER FAST URETHANE AND 3M™ AAD PART NO. 8608 SUPER FAST URETHANE PRIMER OR EQUIVALENT

REMOVAL STEPS

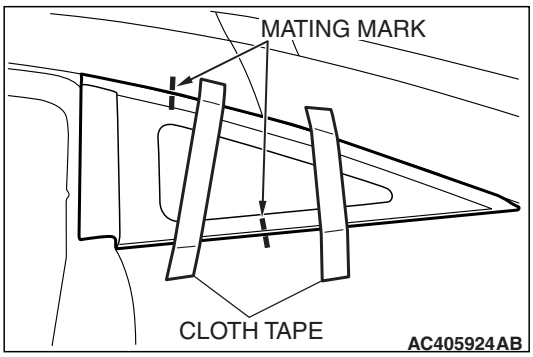
<<A>> >>B<< 1. QUARTER WINDOW GLASS ASSEMBLY
>>A<< 2. CLIP
>>A<< 3. GASKET

Required Special Tool:
- MB990480: Glass Holder

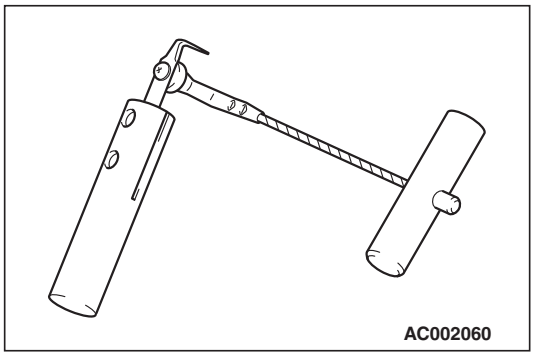
TSB Revision

REMOVAL SERVICE POINT

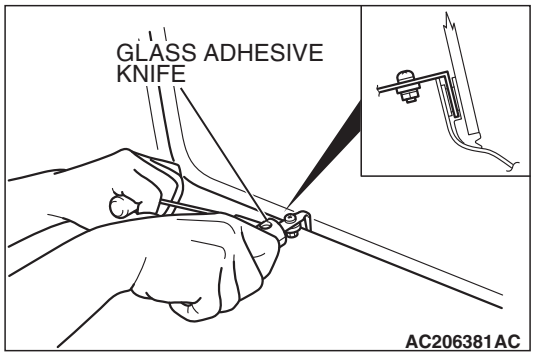
<<A>> QUARTER WINDOW GLASS ASSEMBLY REMOVAL



1. Make mating marks on the vehicle body and the quarter window glass, and hold the glass with cloth tape to prevent it from dropping.

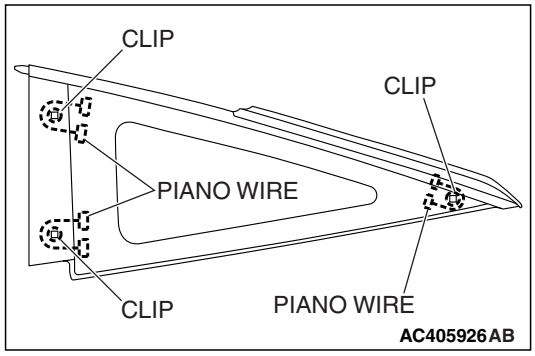


2. Use glass adhesive knife to cut away adhesive.

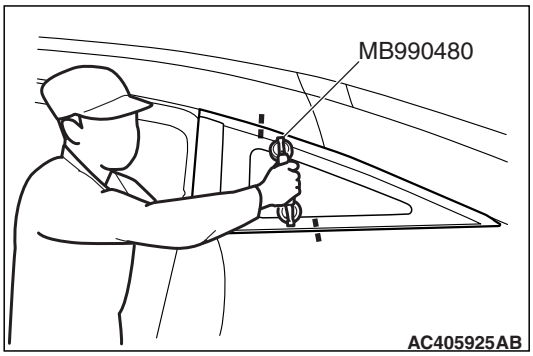


⚠ CAUTION
Inserting the adhesive knife too deeply into windshield adhesive may damage quarter window glass.

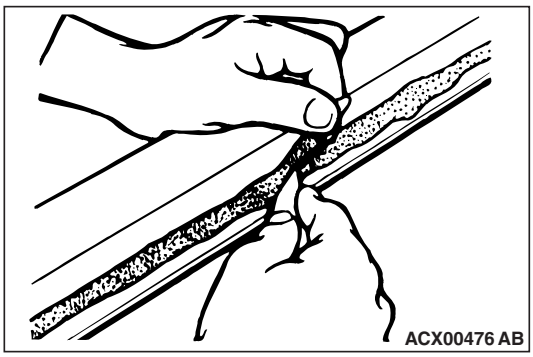
3. Keep the glass adhesive knife at right angles with body flange (from inside the vehicle), and put the blade at body flange. Then cut away adhesive along the body flange.



4. Separate the clips by using a piano wire.



5. Use special tool MB990480 to remove the quarter window glass.



⚠ CAUTION
- **Be careful not to remove more adhesive than is necessary.**
- **Be careful also not to damage the paint on the body surface with the knife. If the paint is damaged, repair the damaged area with touch-up paint.**

6. Use a knife to cut away the remaining adhesive so that the thickness is within 2 mm (0.08 inch) around the entire circumference of the body flange.
7. Finish the flange surfaces so that they are smooth.

⚠ CAUTION
Allow the cleaned area to dry for at least three minutes. Do not touch any surface that has been cleaned.

8. When reusing the quarter window glass, remove the adhesive still adhering to the quarter window glass, and clean with 3M™ AAD Part number 8880 or equivalent.
9. Clean the body side in the same way.

INSTALLATION SERVICE POINTS

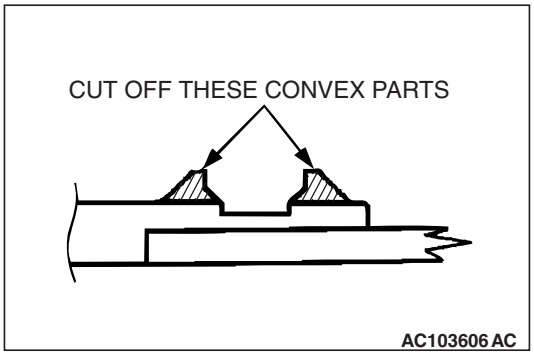
>>A<< GASKET/CLIP INSTALLATION

Carry out the following procedure to re-install quarter window glass.

⚠ CAUTION
Remember to install the gasket.

1. Fit clips into body.
2. Cut away clip fitting convex on quarter window glass.

   NOTE: Convex gets broken when quarter window glass is removed.



>>B<< QUARTER WINDOW GLASS ASSEMBLY INSTALLATION

⚠ CAUTION
Leave the degreased parts for 3 or more minutes to dry well, before starting on the next step. Do not touch the degreased parts.

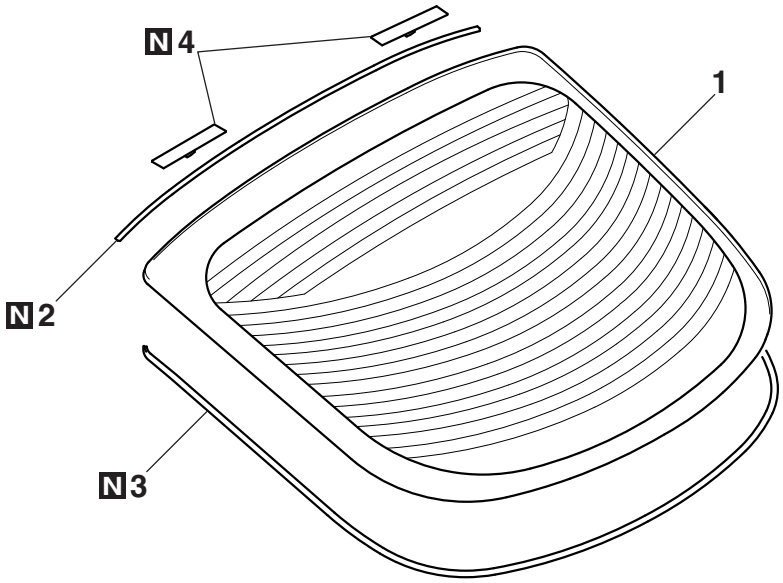
1. Use 3M™ AAD Part number 8880 or equivalent to degrease the inside and outside of the quarter window glass and the body flanges.
2. Install the quarter window glass using the same procedure as for the windshield installation (Refer to P.42-17).

LIFTGATE WINDOW GLASS

REMOVAL AND INSTALLATION <VEHICLES WITHOUT LIFTGATE WINDOW GLASS MOLDING SIDE>

M1422003700835

Pro-removal and Post-installation Operation
- Liftgate Trim Assembly Removal and Installation (Refer to GROUP 52A, Liftgate Trim P.52A-36).
- Rear Wiper Arm and Blade Assembly Removal and Installation (Refer to GROUP 51, Rear Wiper and Washer P.51-21).



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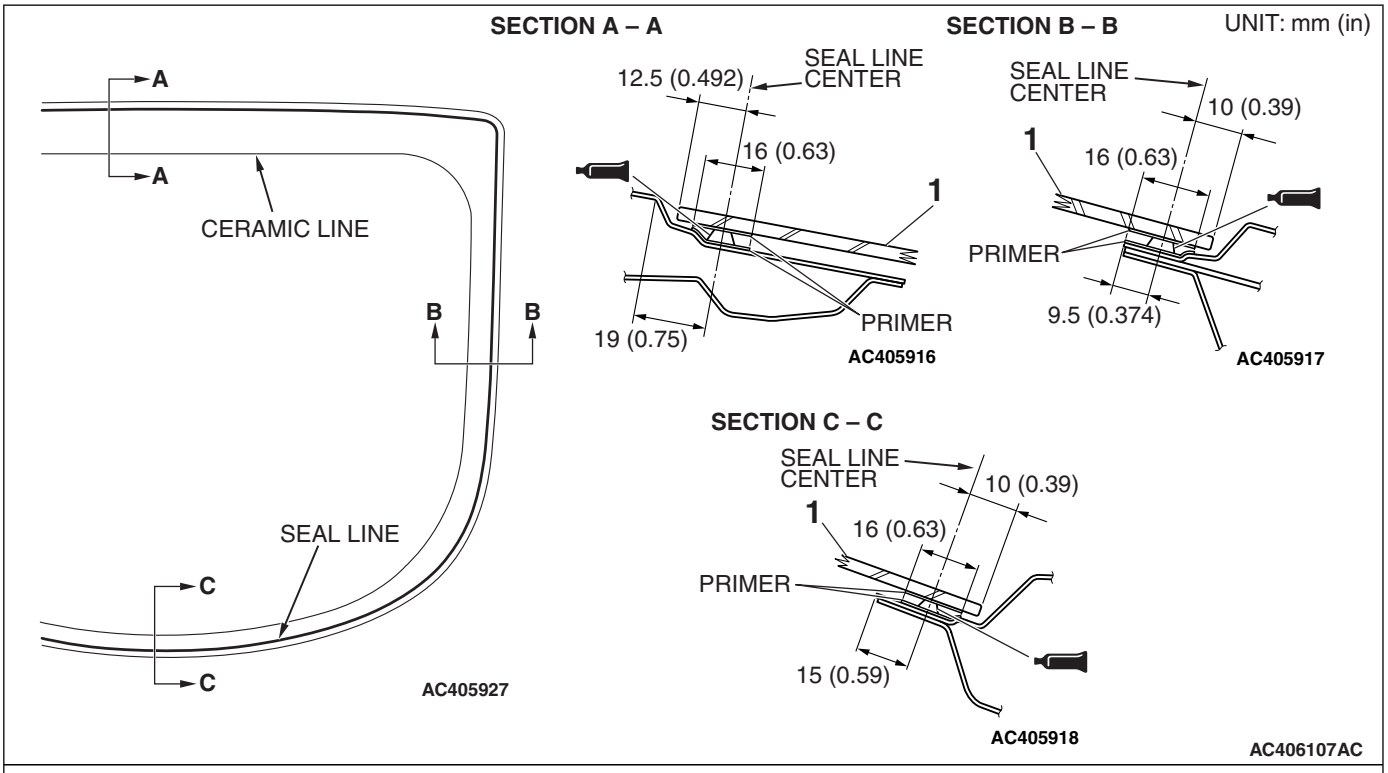

ADHESIVE: 3M™ AAD PART NO. 8609 SUPER FAST URETHANE AND 3M™ AAD PART NO. 8608 SUPER FAST URETHANE PRIMER OR EQUIVALENT

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REMOVAL STEPS

- HARNESS CONNECTOR

<<**A**>> >>**B**<< 1. LIFTGATE WINDOW GLASS
>>**A**<< 2. UPPER MOLDING
>>**A**<< 3. LOWER MOLDING
>>**A**<< 4. GLASS STOPPER

Required Special Tool:

- MB990480: Glass Holder

REMOVAL SERVICE POINT

<<A>> LIFTGATE WINDOW GLASS REMOVAL

Remove the liftgate window glass in the same manner as the windshield (Refer to P.42-17).

NOTE: Use a piano wire to remove the liftgate window glass.

INSTALLATION SERVICE POINTS

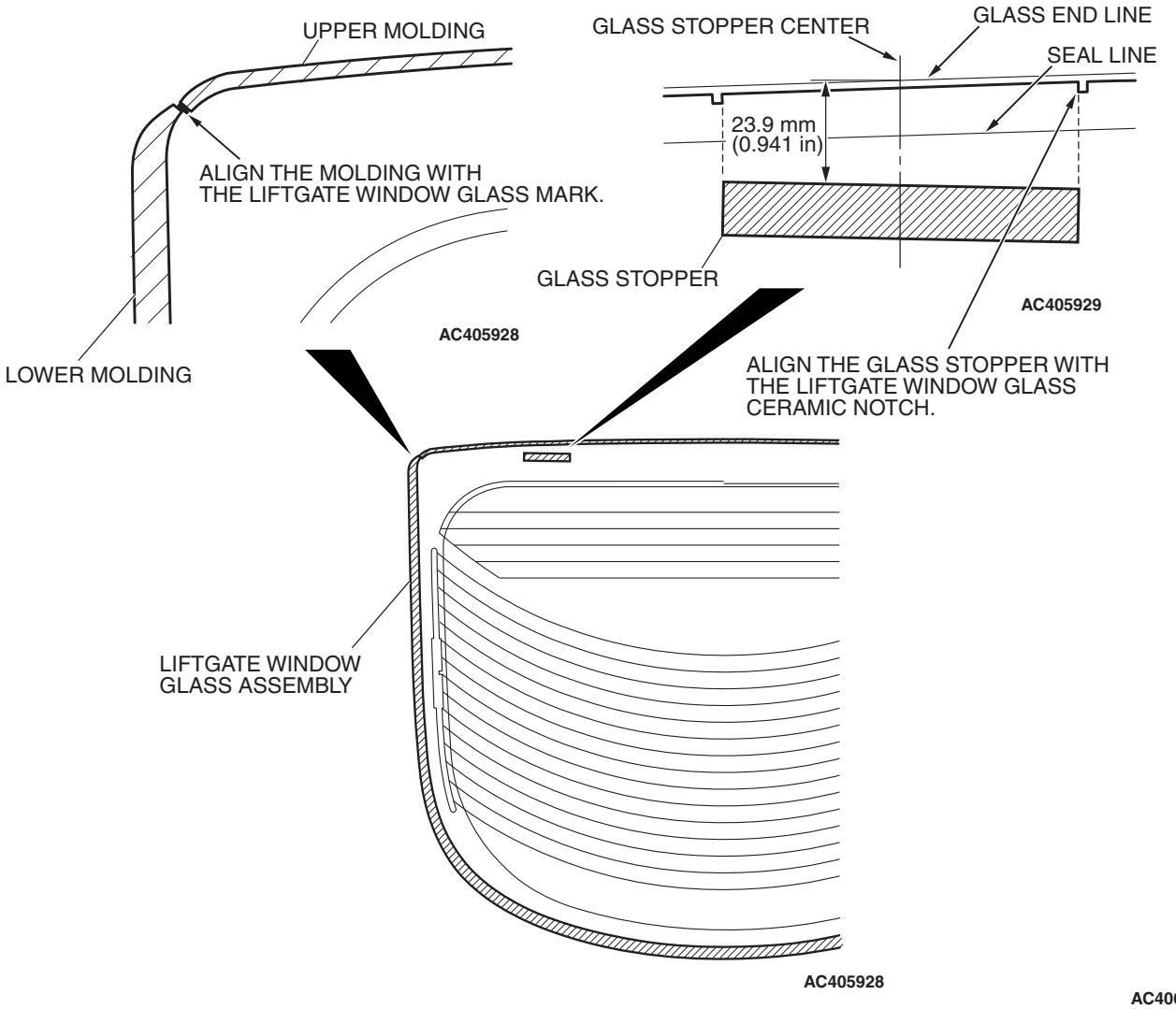
>>A<< GLASS STOPPER/LOWER MOLDING/UPPER MOLDING INSTALLATION

⚠ CAUTION

Before the next job, leave the decreased parts for 3 minutes or more to dry. Do not touch the degreased parts.

1. Use 3M™ AAD Part number 8880 or equivalent to degrease the inside and outside of the liftgate window glass and the liftgate flanges.

GLASS STOPPER AND MOLDING INSTALLATION POSITION



2. Assemble the glass stopper, lower molding and upper molding to specified positions on the liftgate window glass.

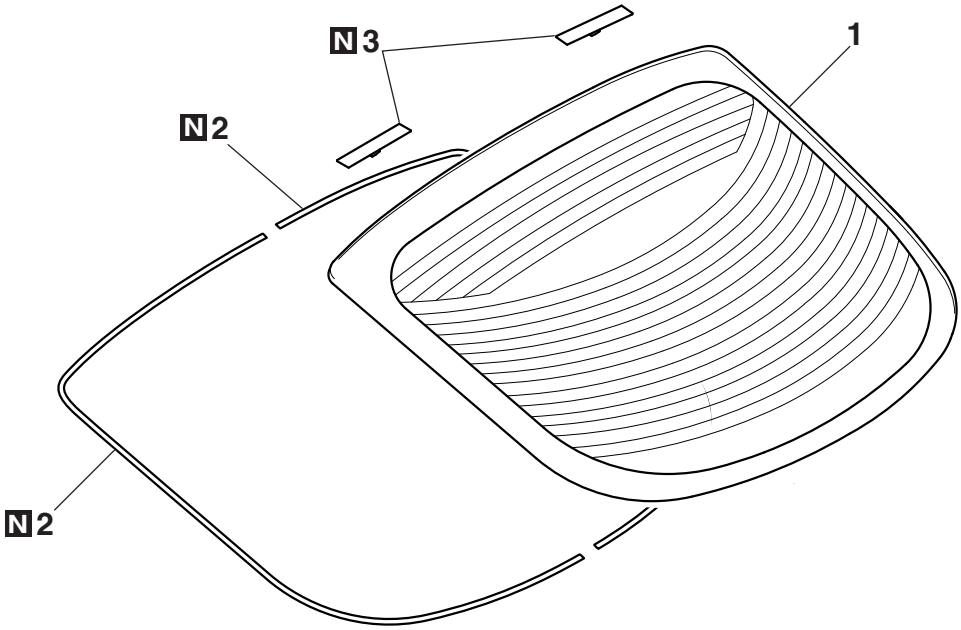
>>B<< LIFTGATE WINDOW GLASS INSTALLATION

Install the liftgate window glass in the same manner as the windshield (Refer to P.42-17).

REMOVAL AND INSTALLATION <Vehicles with liftgate window glass molding side>

M1422003700794

Pro-removal and Post-installation Operation
- Liftgate Trim Assembly Removal and Installation (Refer to GROUP 52A, Liftgate Trim P.52A-36).
- Rear Wiper Arm and Blade Assembly Removal and Installation (Refer to GROUP 51, Rear Wiper and Washer P.51-21).



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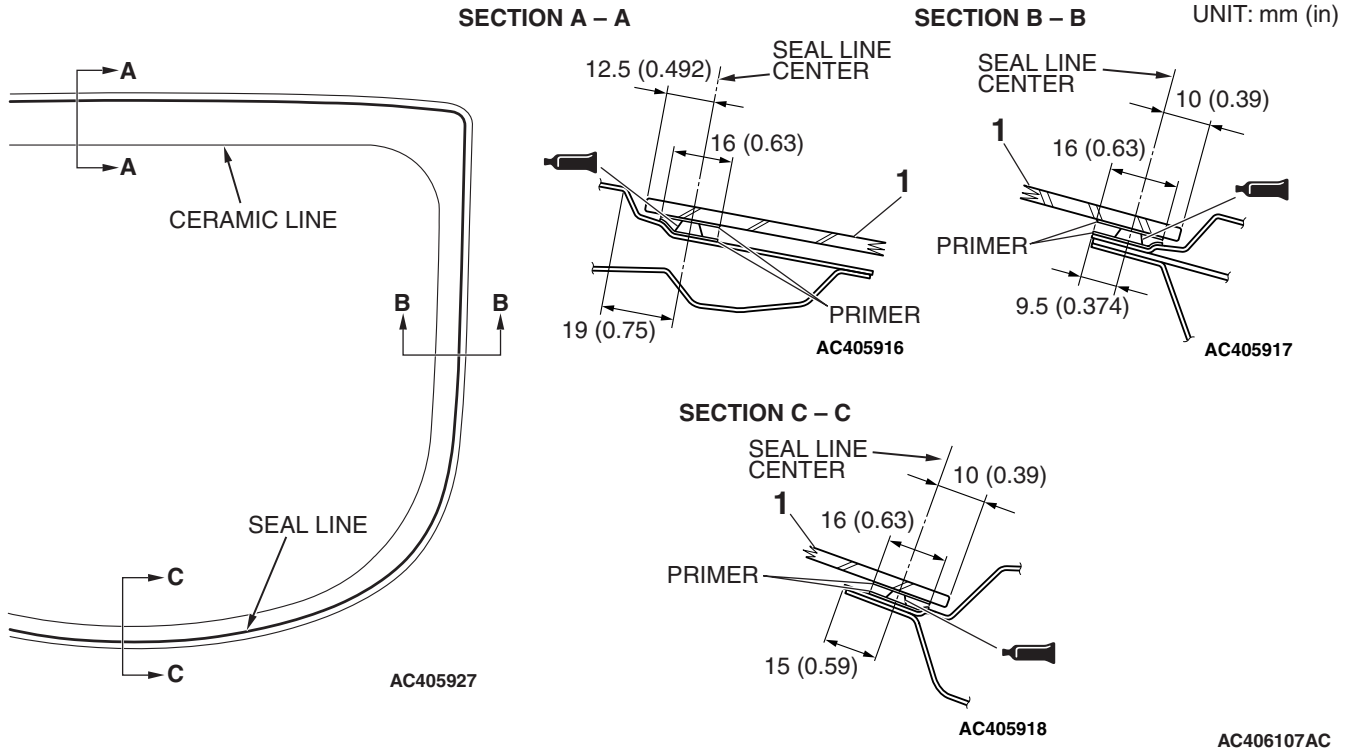

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ADHESIVE: 3M™ AAD PART NO. 8609 SUPER FAST URETHANE AND 3M™ AAD PART NO. 8608 SUPER FAST URETHANE PRIMER OR EQUIVALENT

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REMOVAL STEPS

- HARNESS CONNECTOR

<<**A**>> >>**B**<< 1. LIFTGATE WINDOW GLASS
>>**A**<< 2. LIFTGATE WINDOW GLASS MOLDING SIDE
>>**A**<< 3. GLASS STOPPER

Required Special Tool:

- MB990480: Glass Holder

REMOVAL SERVICE POINT

<<A>> LIFTGATE WINDOW GLASS REMOVAL

Remove the liftgate window glass in the same manner as the windshield (Refer to P.42-17).

NOTE: Use a piano wire to remove the liftgate window glass.

INSTALLATION SERVICE POINTS

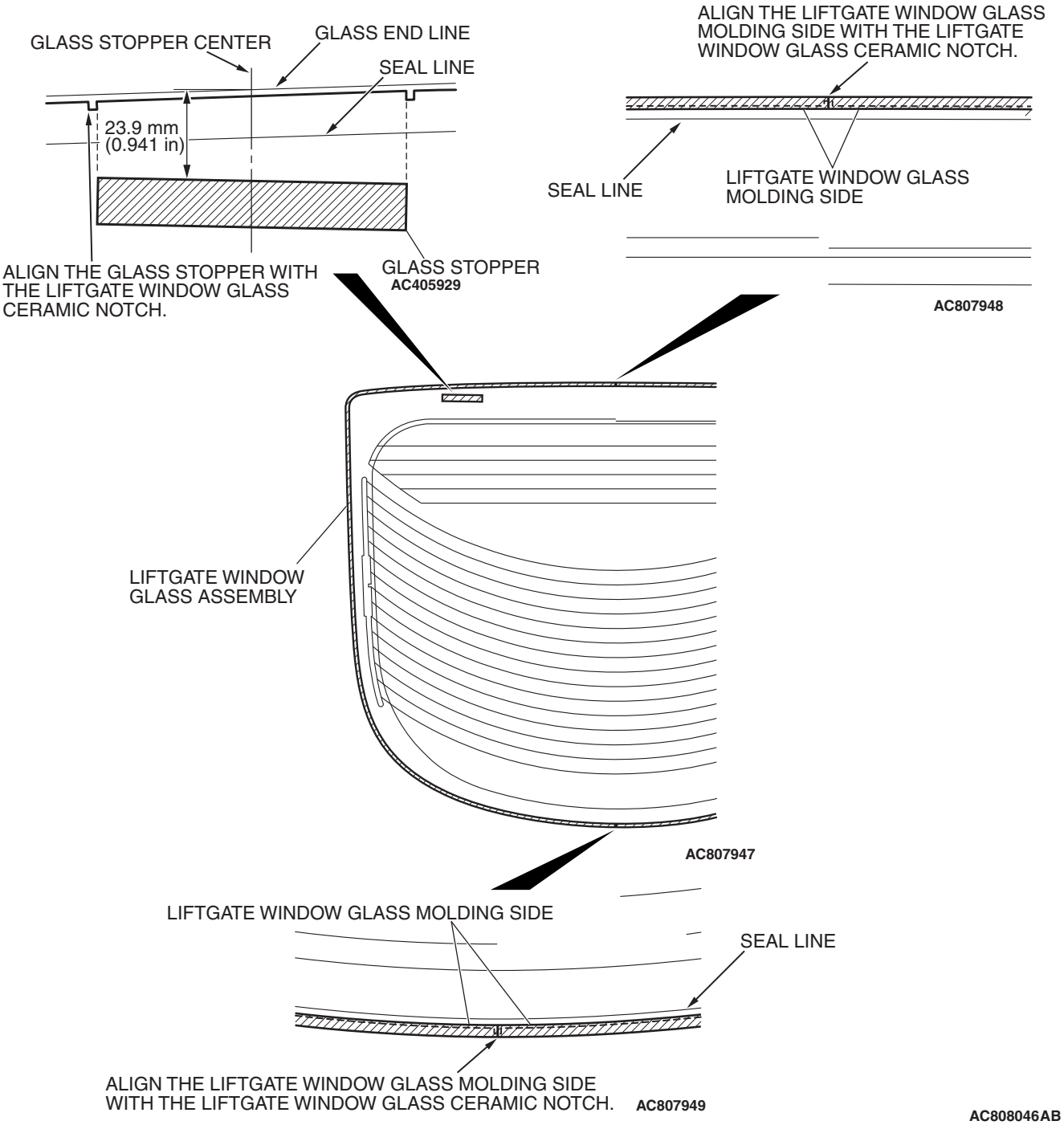
>>A<< GLASS STOPPER/LIFTGATE WINDOW GLASS MOLDING SIDE INSTALLATION

⚠ CAUTION

Before the next job, leave the decreased parts for 3 minutes or more to dry. Do not touch the degreased parts.

1. Use 3M™ AAD Part number 8880 or equivalent to degrease the inside and outside of the liftgate window glass and the liftgate flanges.

GLASS STOPPER AND LIFTGATE WINDOW GLASS MOLDING SIDE INSTALLATION POSITION



2. Assemble the glass stopper and liftgate window glass molding side to specified positions on the liftgate window glass.

>>B<< LIFTGATE WINDOW GLASS INSTALLATION

Install the liftgate window glass in the same manner as the windshield (Refer to P.42-17).

QUARTER WINDOW GLASS AND REGULATOR ASSEMBLY <ECLIPSE SPYDER>

GENERAL DESCRIPTION

M1422000100696

QUARTER WINDOW POWER WINDOWS

Quarter window power windows are used in all vehicles. The quarter window glass can be opened or closed by operating the power window switch. In addition, the quarter window glass can be fully opened by operating the convertible top switch.
A timer function has been provided to allow the quarter windows to be opened or closed in 30 seconds after the ignition switch is turned from "ON" to "LOCK" (OFF) position when a door's are closed (door switch is OFF).

WINDOW GLASS DIAGNOSIS

INTRODUCTION TO WINDOW GLASS DIAGNOSIS

M1422006700265

If water leaks from the quarter window glass, causes for these faults can include faults in the glass, weatherstrip or drain hole.

WINDOW GLASS DIAGNOSTIC TROUBLESHOOTING STRATEGY

M1422006800251

Use these steps to plan your diagnostic strategy. If you follow them carefully, you will be sure that you have exhausted most of the possible ways to find a window glass fault.

1. Gather information from the customer.
2. Verify that the condition described by the customer exists.
3. Find the malfunction by following the Symptom Chart.
4. Verify malfunction is eliminated.

SYMPTOM CHART

M1422006900292

Symptom	Inspection procedure	Reference page
Quarter window glass water leak	1	P.42-31
Quarter window malfunction	2	P.42-32
Water leak around quarter window glass edge	3	P.42-32
Water leak from quarter trim	4	P.42-32
Wind noise around quarter window	5	P.42-33

SYMPTOM PROCEDURES

INSPECTION PROCEDURE 1: Quarter Window Glass Water Leak

DIAGNOSIS

STEP 1. Check if the seal is faulty.

Q: Is the seal faulty?
YES : Repair it, then go to Step 3.
NO : Go to Step 2.

STEP 2. Check if the body flange is deformed.

Q: Is the body flange deformed?
YES : Repair or replace it, then go to Step 3.
NO : Go to Step 3.

STEP 3. Check symptoms.

Q: Is any water leaking?
YES : Return to Step 1.
NO : This diagnosis complete.

INSPECTION PROCEDURE 2: Quarter Window Malfunction

DIAGNOSIS

STEP 1. Check the quarter window installation condition.

Q: Is the quarter window installation condition good?
YES : Go to Step 2.
NO : Adjust it. (Refer to P.42-34.) Then go to Step 3.

STEP 2. Inspect the window regulator assembly.

Q: Is the window regulator assembly in good condition?
YES : Go to Step 3.
NO : Repair or replace it, then go to Step 3.

STEP 3. Check symptoms.

Q: Does the quarter window operate correctly?
YES : This diagnosis is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 3: Water Leak around Quarter Window Glass Edge

DIAGNOSIS

STEP 1. Check the weatherstrip.

Q: Is the weatherstrip in good condition?
YES : Go to Step 2.
NO : Replace it, then go to Step 3.

STEP 2. Check quarter window glass fit (alignment).

Q: Is the quarter window glass fit (alignment) correct?
YES : Go to Step 3.
NO : Adjust it. Refer to P.42-34. Then go to Step 3.

STEP 3. Check symptoms.

Q: Is any water leaking?
YES : Return to Step 1.
NO : This diagnosis is complete.

INSPECTION PROCEDURE 4: Water Leak from Quarter Trim

DIAGNOSIS

STEP 1. Check the drain hole.

Q: Is the drain hole clogged?
YES : Replace it, then go to Step 3.
NO : Go to Step 2.

STEP 2. Check the waterproof cover.

Q: Is the waterproof cover in good condition?
YES : Go to Step 3.
NO : Repair or replace it, then go to Step 3.

STEP 3. Check symptoms.

Q: Is any water leaking?
YES : Return to Step 1.
NO : This diagnosis is complete.

INSPECTION PROCEDURE 5: Wind Noise around Quarter Window

DIAGNOSIS

STEP 1. Check the weatherstrip for holding condition.

Q: Is the weatherstrip holding firmly?
YES : Go to Step 2.
NO : Adjust fit of quarter window glass. Refer to P.42-34. Then go to Step 4.

STEP 2. Check the clearance.

Q: Is the clearance between the quarter window glass and the rear rail weatherstrip holder proper?
YES : Go to Step 3.
NO : Adjust it. Refer to P.42-34. Then go to Step 4.

STEP 3. Check the quarter window regulator assembly.

Q: Is the quarter window regulator deformed?
YES : Repair or replace it. then go to Step 4.
NO : Go to Step 4.

STEP 4. Check symptoms.

Q: Has the wind noise been improved?
YES : Return to Step 1.
NO : This diagnosis complete.

POWER WINDOW DIAGNOSIS

INTRODUCTION TO POWER WINDOWS DIAGNOSIS

M1429002600171

The quarter window is controlled by the convertible top control module. For troubleshooting, refer to Electric Convertible Top Diagnosis P.42-130. When the power window main switch is operated, the quarter window regulator motor operates and opens or closes the quarter window.
A timer function has been provided to allow the quarter windows to be opened or closed in 30 seconds after the ignition switch is turned from "ON" to "LOCK" (OFF) position when a door's are closed (door switch is OFF).

If the following types of symptom occur, check the Convertible top control module diagnosis code. (Refer to P.42-138.)

- None of the quarter windows open or close.
- There are quarter windows that do not open or close using the power window main switch.
- When parking there are quarter windows that do not open using the convertible top switch.

If the windows cannot be opened or closed using the power window main switch within 30 seconds after the ignition switch is turned from "ON" to "LOCK" (OFF) position, refer to GROUP 54B – Diagnosis P.54B-54.

ON-VEHICLE SERVICE

QUARTER WINDOW GLASS INSPECTION

M1422002600028

Operate the power window switch of each door to verify that the power windows operate properly. If they don't, then trouble-shoot as described in P.42-33.

QUARTER WINDOW GLASS ADJUSTMENT

M1422005800065

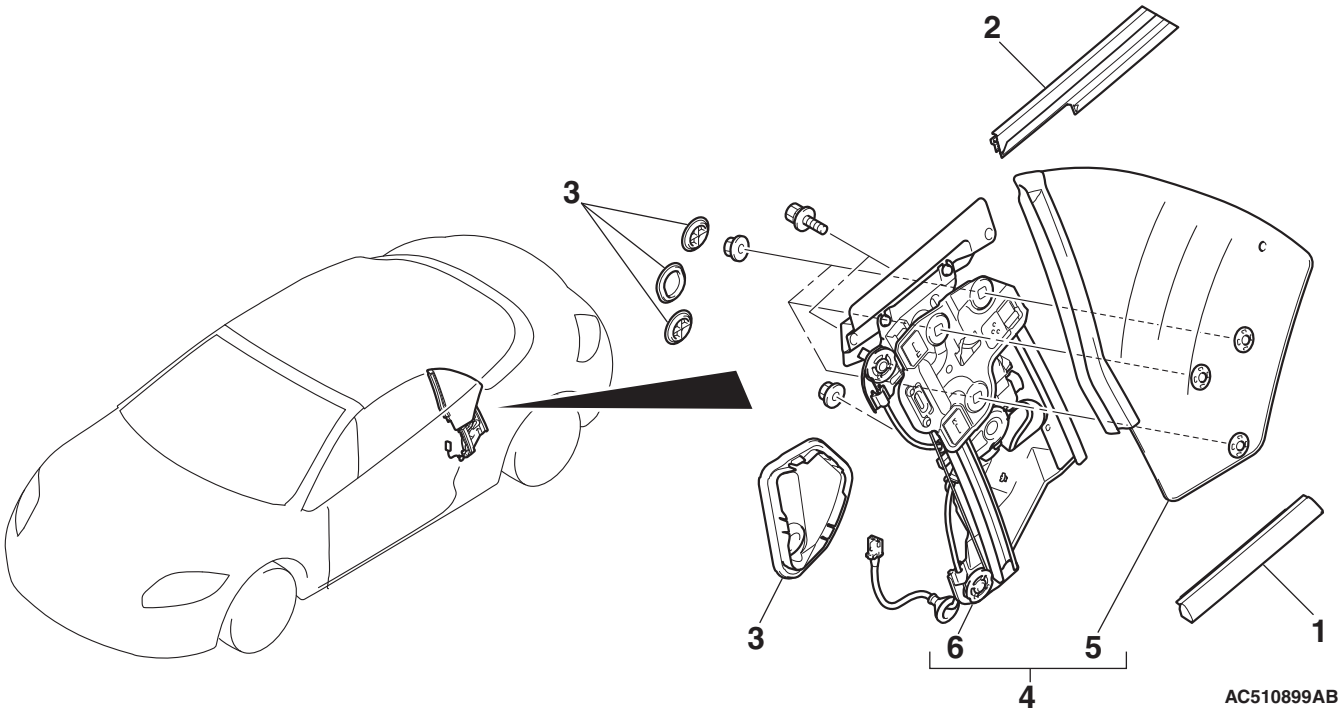
For quarter window glass adjustment, refer to Door Window Glass (Refer to P.42-60).

QUARTER WINDOW GLASS AND REGULATOR ASSEMBLY

REMOVAL AND INSTALLATION

M1422006000051

Post-installation Operation
- Quarter Window Glass Adjustment (Refer to P.42-33).



REMOVAL STEPS
1. QUARTER BELT MOLDING
- FRONT PILLAR AND FRONT ROOF WEATHERSTRIP (REFER TO P.42-270.)
- QUARTER TRIM LOWER (REFER TO GROUP 52A, TRIMS P.52A-30.)
2. QUARTER BELT WEATHERSTRIP INNER
- QUARTER TRIM BRACKET (REFER TO GROUP 52A, TRIMS P.52A-30.)

REMOVAL STEPS (Continued)
- QUARTER SPEAKER BRACKET (REFER TO GROUP 54A, SPEAKER P.54A-261.)
- SIDE GUARD BAR (REFER TO P.42-302.)
3. QUARTER WINDOW PLUG
4. QUARTER WINDOW REGULATOR ASSEMBLY
5. QUARTER WINDOW GLASS
6. QUARTER WINDOW REGULATOR

INSPECTION

M1421007600774

QUARTER WINDOW REGULATOR MOTOR CHECK

1. Connect a battery directly to the motor terminals and check that the motor runs smoothly.
2. Check that the motor runs in the opposite direction when the battery is connected with the polarity reversed.
3. If a defect is found, replace the quarter window regulator as an assembly.

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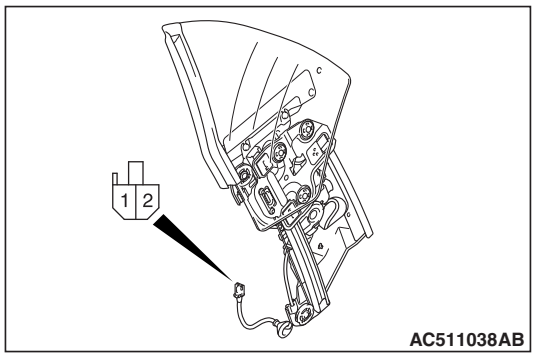


Battery connection	Slider position
• Connect terminal No. 2 and the negative battery terminal. • Connect terminal No. 1 and the positive battery terminal.	UP
• Connect terminal No. 1 and the negative battery terminal. • Connect terminal No. 2 and the positive battery terminal.	DOWN

DOOR

GENERAL DESCRIPTION

OPERATION

CENTRAL DOOR LOCKING SYSTEM

The central door locking system operates the door lock actuator to lock or unlock the doors using the door lock switch built into the front power window (main or sub) switch. The system has the following operations and features:

- All doors and liftgate<ECLIPSE> can be locked using the door lock switch built into the front power window (main or sub) switch.
- The key reminder function automatically unlocks all doors when door lock operation is performed and the front doors are opened while the key is inserted into the ignition switch.

POWER WINDOWS

When the power window (main or sub) switch is operated, the door windows will open or close. This system has the following operations and features:

- A power window lock switch on the power window main switch prevents the door window glass from opening/closing with the front passenger's power window sub switch.

M1423000100365

- The power window of the door window glass can be opened/closed for 30 seconds with the timer function after the ignition switch is turned OFF. (The timer expires if the front door <LH or RH> is opened when the timer is in operation).
- The power window main switch contains a one-touch down switch that will automatically open the driver's side door window only.

SHORT STROKE MECHANISM

- If the door outside handle or the door inside handle is operated when the door is closed and the door window glass is fully closed, or when the door is closed and the door window glass is open by less than 10 ± 5 mm (0.39 ± 0.197 inch), the door window glass will be lowered by 10 ± 5 mm (0.39 ± 0.197 inch).
- If the door is closed when the door is open and the door window glass is open by 10 ± 5 mm (0.39 ± 0.197 inch) or less, the door window glass will be fully closed.
- The short stroke mechanism does not work when the door window glass is already lowered 10 ± 5 mm (0.39 ± 0.197 inch) or more from the fully closed position.

CENTRAL DOOR LOCKING SYSTEM DIAGNOSIS

M1427000700284

The central door locking system is controlled by the Simplified Wiring System (SWS). Refer to GROUP 54B, Diagnosis P.54B-54.

POWER WINDOW DIAGNOSIS

INTRODUCTION TO POWER WINDOW DIAGNOSIS

M1429002600160

The power window is controlled by the Simplified Wiring System (SWS). Refer to GROUP 54B, Diagnosis P.54B-54.

SHORT STROKE MECHANISM

- If the door outside handle or the door inside handle is operated when the door is closed and the door window glass is fully closed, or when the door is closed and the door window glass is open by less than 10 ± 5 mm (0.39 ± 0.197 inch), the door window glass will be lowered by 10 ± 5 mm (0.39 ± 0.197 inch).
- If the door is closed when the door is open and the door window glass is open by 10 ± 5 mm (0.39 ± 0.197 inch) or less, the door window glass will be fully closed.
- The short stroke mechanism does not work when the door window glass is already lowered 10 ± 5 mm (0.39 ± 0.197 inch) or more from the fully closed position.

If the following types of symptom occur, there may be a fault.

- The short stroke mechanism does not work.

POWER WINDOW DIAGNOSTIC TROUBLESHOOTING STRATEGY

M1429002700178

Use these steps to plan your diagnostic strategy. If you follow them carefully, you will be sure that you have exhausted most of the possible ways to find a power windows fault.

1. Gather information from customer.
2. Verify that the condition described by the customer exists.
3. Find the malfunction by following the Symptom Chart.
4. Verify malfunction is eliminated.

TROUBLE SYMPTOM CHART

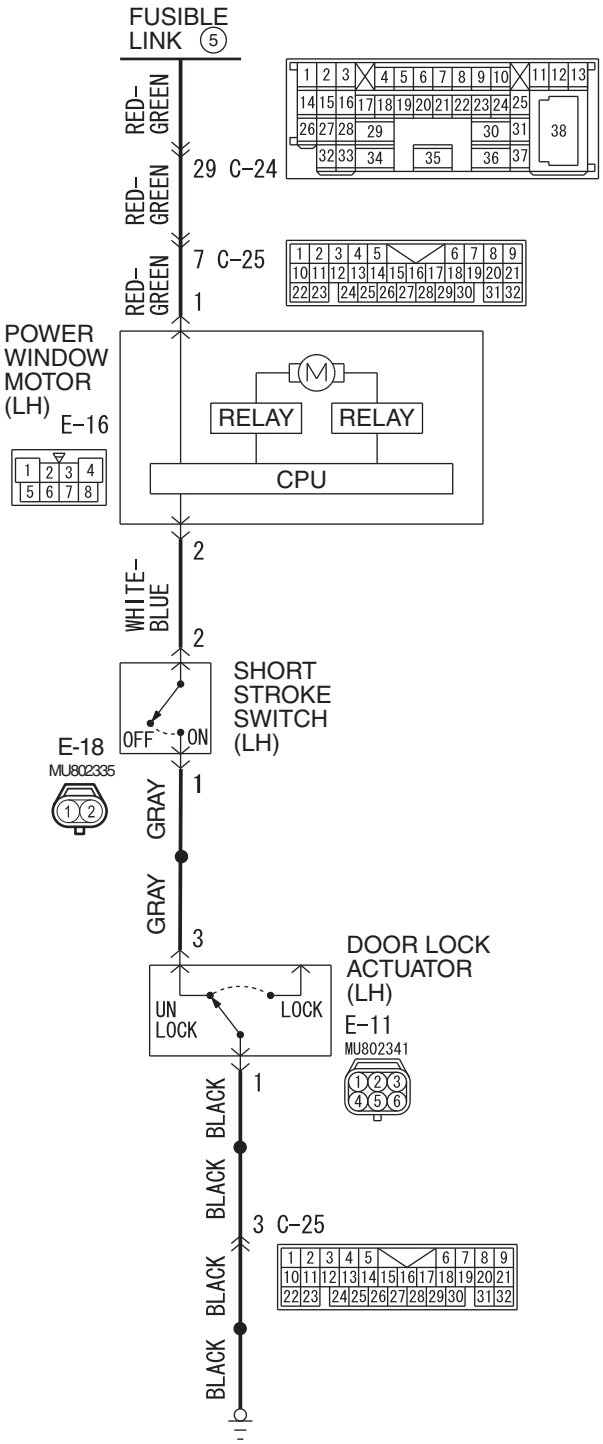
M1429002800238

Symptom	Inspection procedure	Reference page
Short stroke mechanism does not work. <Driver's side>	1	P.42-37
Short stroke mechanism does not work. <Passenger's side>	2	P.42-43

SYMPTOM PROCEDURES

INSPECTION PROCEDURE 1: Short Stroke Mechanism does not Work. <Driver's Side>

Short Stroke Mechanism Power Supply Circuit <Driver's Side>



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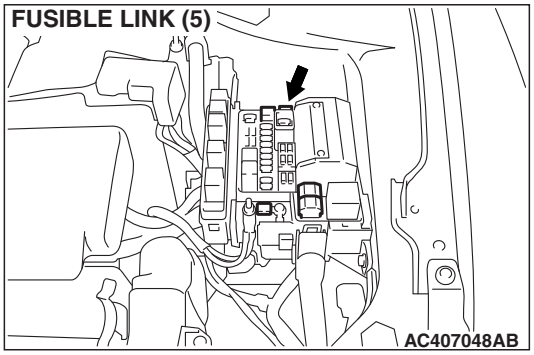
FUSIBLE LINK (5)



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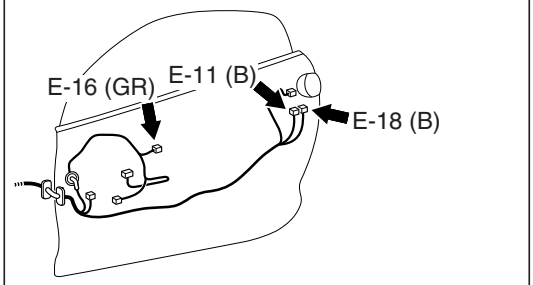
CONNECOTRS: E-11, E-16, E-18



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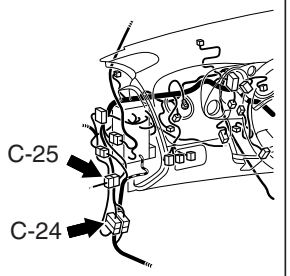
CONNECTORS: C-24, C-25



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TECHNICAL DESCRIPTION (COMMENT)

The short stroke switch (LH) or the power window motor (LH) may be defective.

TROUBLESHOOTING HINTS

- The short stroke switch (LH) may be defective
- The power window motor (LH) may be defective
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector

DIAGNOSIS

Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe

STEP 1. Short stroke mechanism fully closed position learning procedure.

Carry out the short stroke mechanism fully closed position learning procedure (Refer to P.42-77).

Q: Does the short stroke mechanism (LH) work normally?

YES : The short stroke mechanism (LH) should raise and lower normally.

NO : Go to Step 2.

STEP 2. Verify the power window system.

Q: Does the power window system work normally?

YES : Go to Step 3.

NO : Refer to GROUP 54B, Diagnosis P.54B-54. Check that all the doors can be raised or lowered by operating the power window main switch.

STEP 3. Verify the central door locking system.

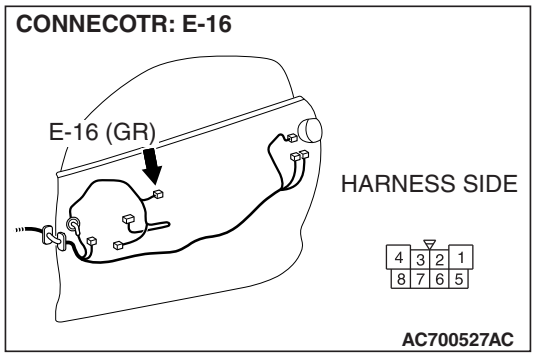
Q: Does the central door locking system work normally?

YES : Go to Step 4.

NO : Refer to GROUP 54B, Diagnosis P.54B-54. Check that all the doors can be locked or unlocked by operating the power window switch (door lock switch).

STEP 4. Check power window motor (LH) connector E-16 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is power window motor (LH) connector E-16 in good condition?



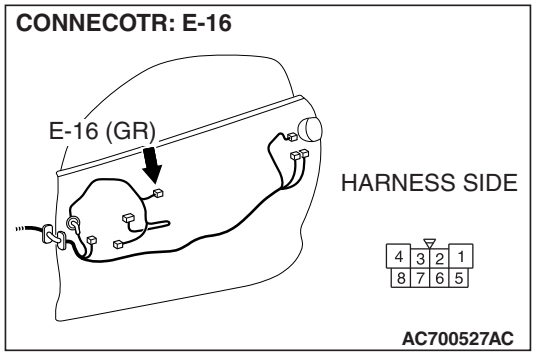
YES : Go to Step 5.

NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P.00E-2. The short stroke mechanism (LH) should raise and lower normally.

STEP 5. Check the battery power supply circuit to the power window motor (LH). Measure the voltage at power window motor (LH) connector E-16.

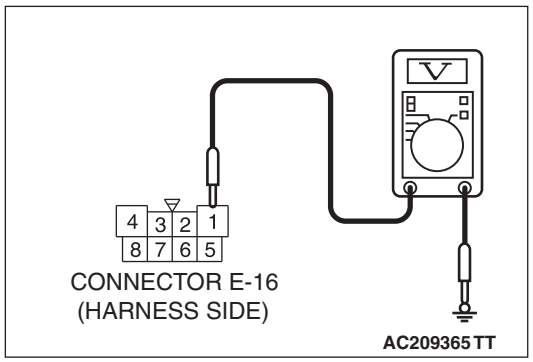
(1) Disconnect power window motor (LH) connector E-16 and measure the voltage available at the wiring harness side of the connector.

(2) Turn the ignition switch to "OFF" position.



(3) Measure the voltage between terminal 1 and ground.

- The voltage should measure approximately 12 volts (battery positive voltage).

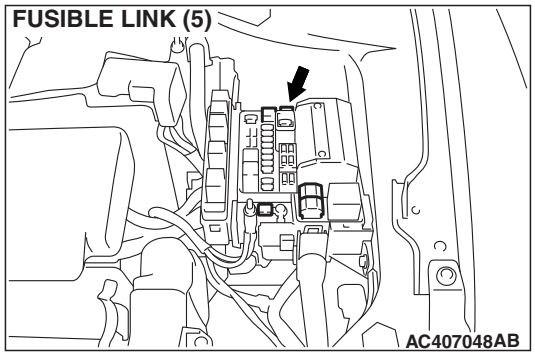


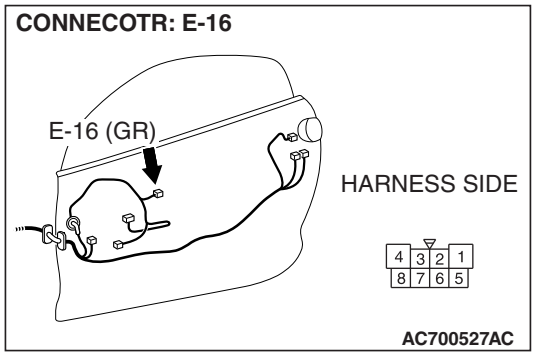
Q: Is the measured voltage approximately 12 volts (battery positive voltage)?

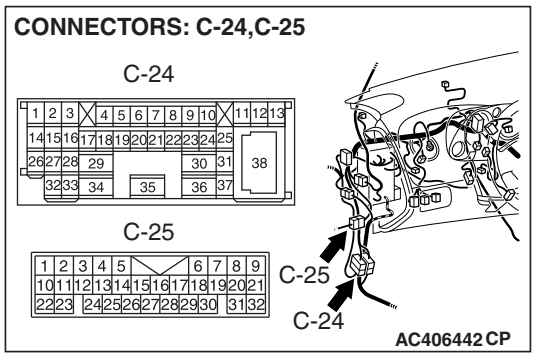
YES : Go to Step 7.

NO : Go to Step 6.

STEP 6. Check the wiring harness between power window motor (LH) connector E-16 (terminal 1) and fusible link (5).





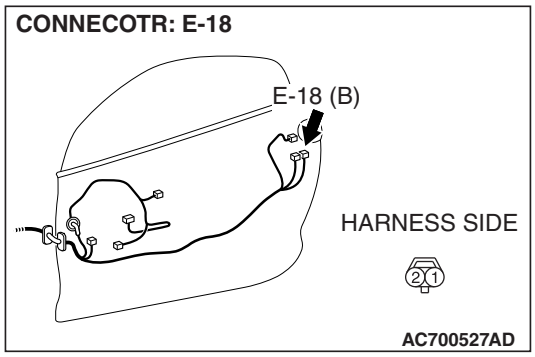


NOTE: Also check intermediate connector C-24 and C-25 for loose, corroded or damaged terminals, or terminals pushed back in the connectors. If intermediate connector C-24 or C-25 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection *P.00E-2**.*

Q: Is the wiring harness between power window motor (LH) connector E-16 (terminal 1) and fusible link (5) in good condition?

YES : No action is necessary and testing is complete.

NO : The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. The short stroke mechanism (LH) should raise and lower normally.

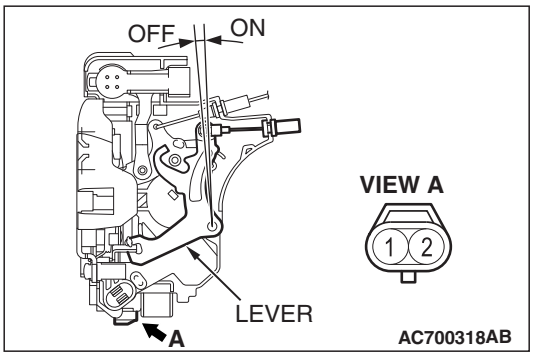


STEP 7. Check short stroke switch (LH) connector E-18 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is short stroke switch (LH) connector E-18 in good condition?

YES : Go to Step 8.

NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P.00E-2. The short stroke mechanism (LH) should raise and lower normally.



STEP 8. Check the short stroke switch (LH) for continuity.

(1) Remove the door latch assembly (LH). Refer to P.42-84.

(2) Check continuity when the short stroke switch (LH) is operated to "ON" or "OFF" position.

Switch position	Tester connection	Specified condition
ON	1 – 2	Less than 2 ohms
OFF	1 – 2	Open circuit

Q: Is the short stroke switch (LH) normal?

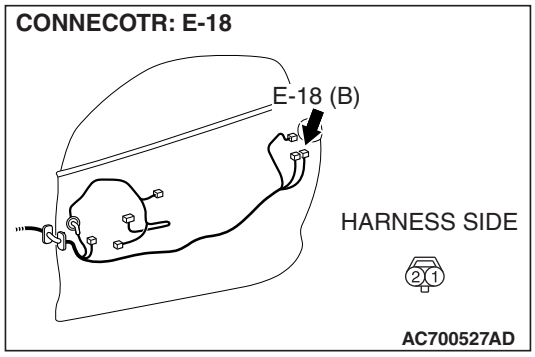
YES : Go to Step 9.

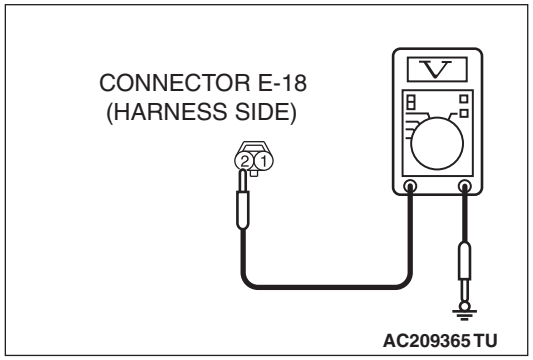
NO : Replace the door latch assembly (LH). The short stroke mechanism (LH) should raise and lower normally.

STEP 9. Check the battery power supply circuit to the short stroke switch (LH). Measure the voltage at short stroke switch (LH) connector E-18.

(1) Disconnect short stroke switch (LH) connector E-18 and measure the voltage available at the wiring harness side of the connector.

(2) Turn the ignition switch to "OFF" position.



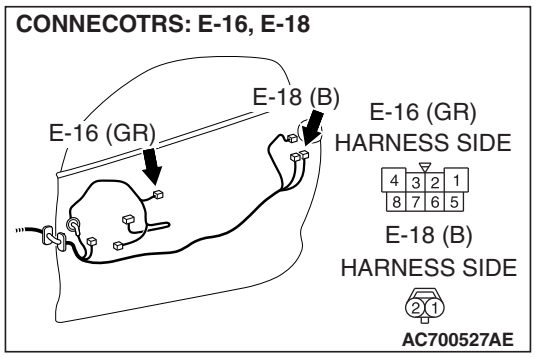


(3) Measure the voltage between terminal 2 and ground.
- The voltage should measure approximately 12 volts (battery positive voltage).

Q: Is the measured voltage approximately 12 volts (battery positive voltage)?

YES : Go to Step 11.
NO : Go to Step 10.

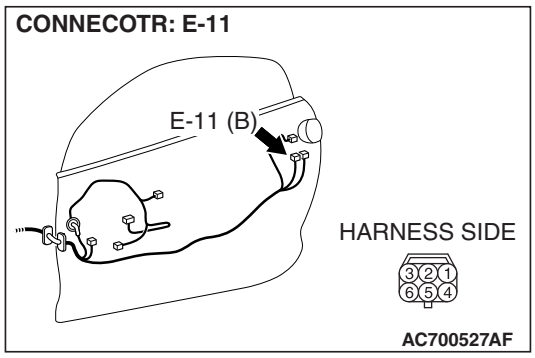
STEP 10. Check the wiring harness between power window motor (LH) connector E-16 (terminal 2) and short stroke switch (LH) connector E-18 (terminal 2).



Q: Is the wiring harness between power window motor (LH) connector E-16 (terminal 2) and short stroke switch (LH) connector E-18 (terminal 2) in good condition?

YES : No action is necessary and testing is complete.
NO : The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. The short stroke mechanism (LH) should raise and lower normally.

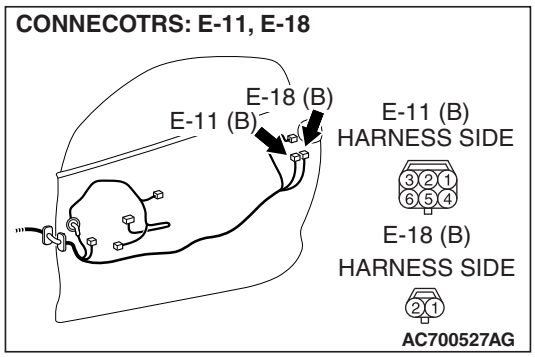
STEP 11. Check door lock actuator (LH) connector E-11 for loose, corroded or damaged terminals, or terminals pushed back in the connector.



Q: Is door lock actuator (LH) connector E-11 in good condition?

YES : Go to Step 12.
NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P.00E-2. The short stroke mechanism (LH) should raise and lower normally.

STEP 12. Check the wiring harness between short stroke switch (LH) connector E-18 (terminal 1) and door lock actuator (LH) connector E-11 (terminal 3).



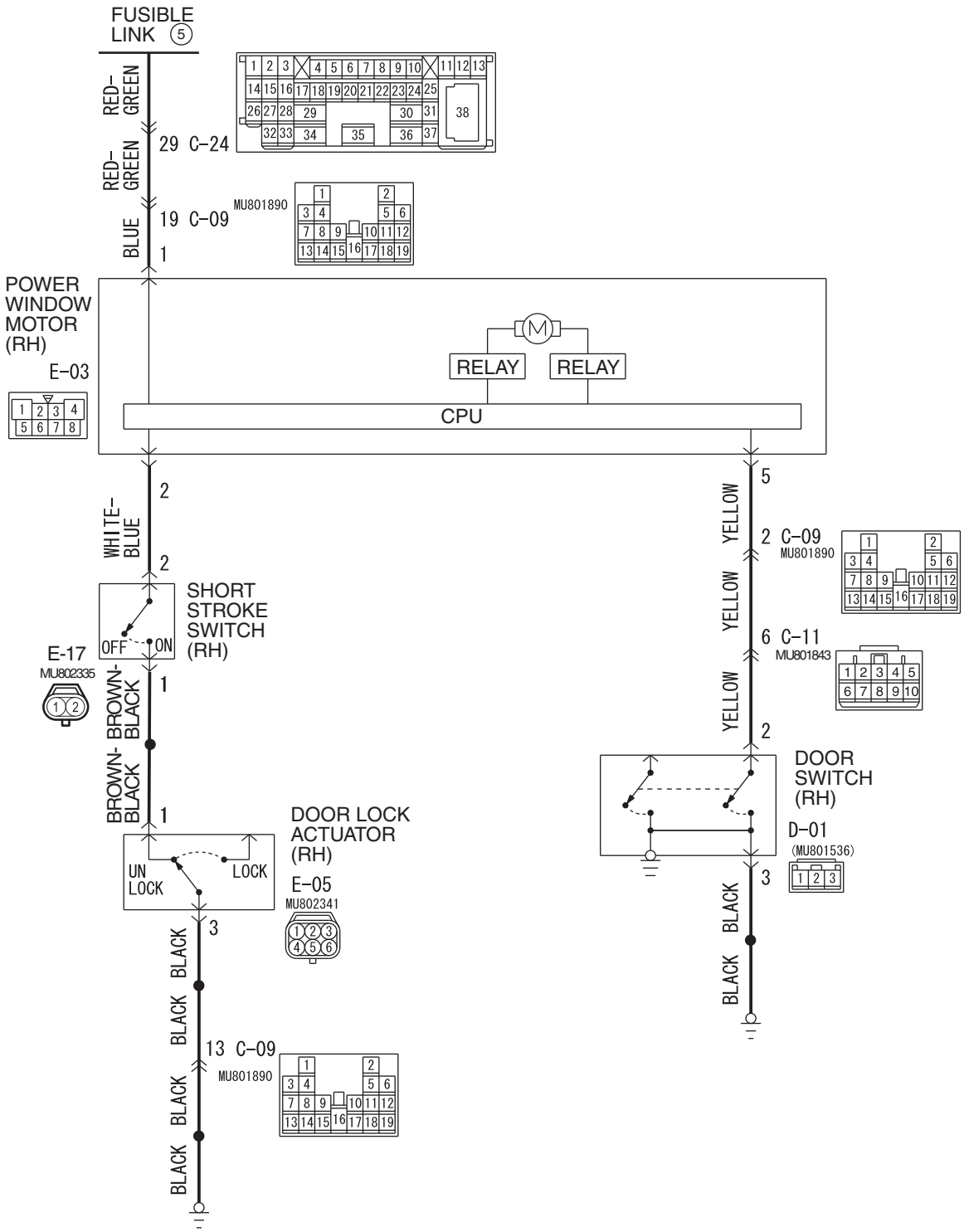
Q: Is the wiring harness between short stroke switch (LH) connector E-18 (terminal 1) and door lock actuator (LH) connector E-11 (terminal 3) in good condition?

YES : No action is necessary and testing is complete.
NO : The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. The short stroke mechanism (LH) should raise and lower normally.

TSB Revision

INSPECTION PROCEDURE 2: Short Stroke Mechanism does not Work. <Passenger's Side>

Short Stroke Mechanism Power Supply Circuit <Passenger's Side>



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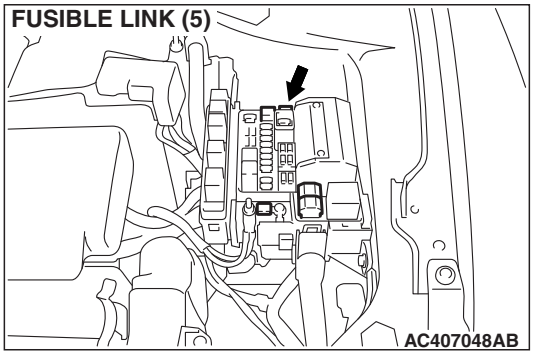
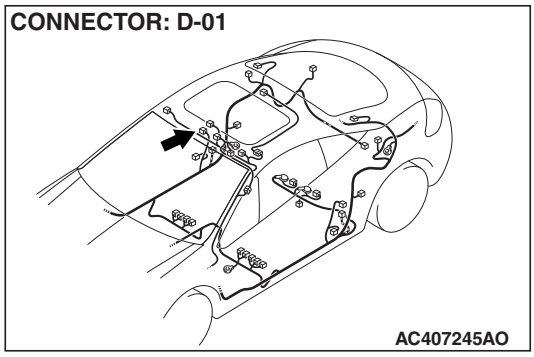
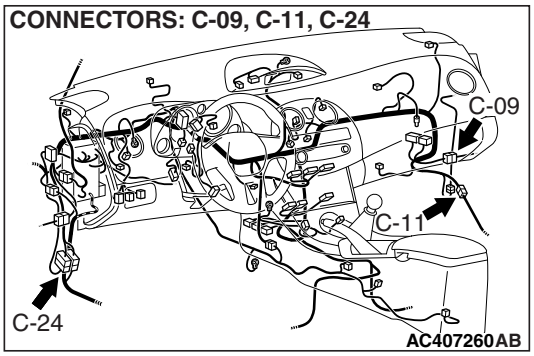
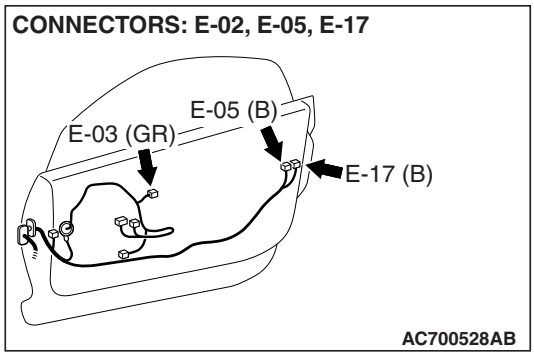








TECHNICAL DESCRIPTION (COMMENT)

The door switch (RH), the short stroke switch (RH) or the power window motor (RH) may be defective.

TROUBLESHOOTING HINTS

- The door switch (RH) may be defective
- The short stroke switch (RH) may be defective
- The power window motor (RH) may be defective
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector

DIAGNOSIS

Required Special Tools:

- MB991223: Harness Set
- MB992006: Extra Fine Probe

STEP 1. Short stroke mechanism fully closed position learning procedure.

Carry out the short stroke mechanism fully closed position learning procedure (Refer to P.42-77)

Q: Does the short stroke mechanism (RH) work normally?

YES : The short stroke mechanism (RH) should raise and lower normally.

NO : Go to Step 2.

STEP 2. Verify the power window system.

Q: Does the power window system work normally?

YES : Go to Step 3.

NO : Refer to GROUP 54B, Diagnosis P.54B-54. Check that all the doors can be raised or lowered by operating the power window main switch and power window sub switch.

TSB Revision

STEP 3. Verify the central door locking system.

Q: Does the central door locking system work normally?

YES : Go to Step 4.

NO : Refer to GROUP 54B, Diagnosis P.54B-54. Check that all the doors can be locked or unlocked by operating the power window switch (door lock switch).

STEP 4. Verify trouble symptom.

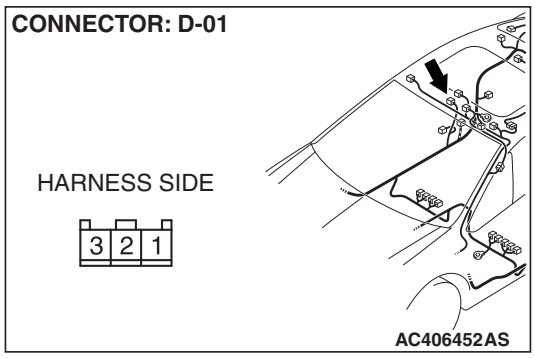
Q: Which short stroke mechanism (RH) is defective?

he mechanism does not work only when the door (RH) is closed. : Go to Step 5.

The mechanism does not work at all. : Go to Step 10.

STEP 5. Check door switch (RH) connector D-01 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is door switch (RH) connector D-01 in good condition?



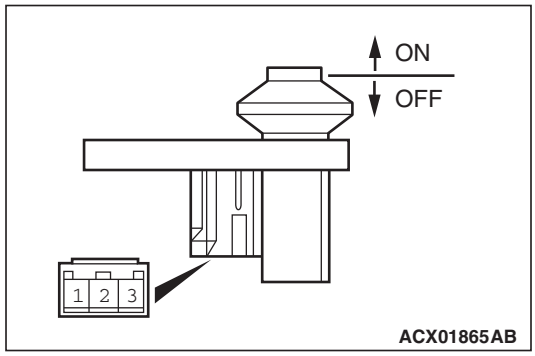
YES : Go to Step 6.

NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P.00E-2. When the door switch (RH) is operated, the short stroke mechanism (RH) should raise and lower normally.

STEP 6. Check the door switch (RH) for continuity.

(1) Remove the door switch (RH). Refer to P.42-80.

(2) Check continuity when the door switch (RH) is operated to "ON" or "OFF" position.



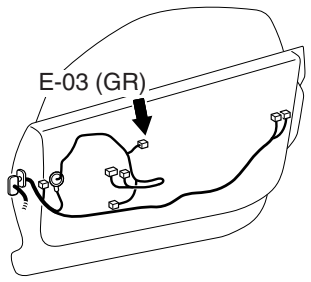
Switch position	Tester connection	Specified condition
Released (ON)	2 – body ground	Less than 2 ohms
Depressed (OFF)	2 – body ground	Open circuit

Q: Is the door switch (RH) normal?

YES : Go to Step 7.

NO : Replace the door switch (RH). When the door (RH) is operated, the short stroke mechanism (RH) should raise and lower normally.

CONNECOTR: E-03



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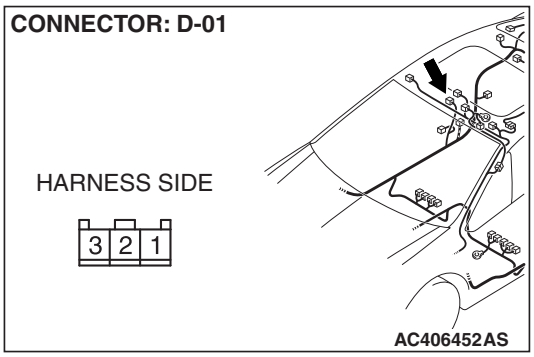
STEP 7. Check power window motor (RH) connector E-03 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is power window motor (RH) connector E-03 in good condition?

YES : Go to Step 8.

NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P.00E-2. When the door switch (RH) is operated, the short stroke mechanism (RH) should raise and lower normally.

CONNECTOR: D-01



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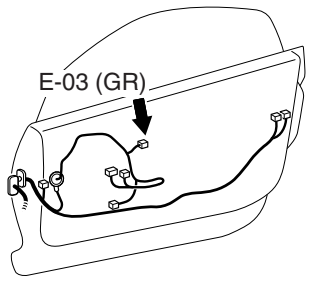
STEP 8. Check the wiring harness between power window motor (RH) connector E-03 (terminal 5) and door switch (RH) connector D-01 (terminal 2).

CONNECOTR: E-03



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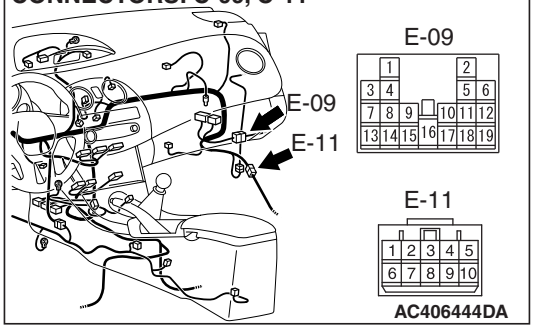
CONNECTORS: C-09, C-11



NOTE: Also check intermediate connector C-09 and C-11 for loose, corroded or damaged terminals, or terminals pushed back in the connectors. If intermediate connector C-09 or C-11 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection P.00E-2.

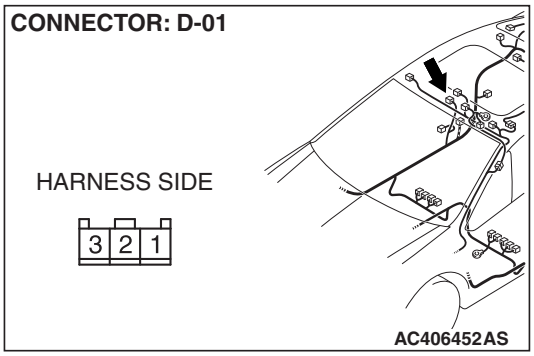
Q: Is the wiring harness between power window motor (RH) connector E-03 (terminal 5) and door switch (RH) connector D-01 (terminal 2) in good condition?

YES : Go to Step 9.

NO : The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. When the door switch (RH) is operated, the short stroke mechanism (RH) should raise and lower normally.

STEP 9. Check the wiring harness between door switch (RH) connector D-01 (terminal 3) and ground.

CONNECTOR: D-01



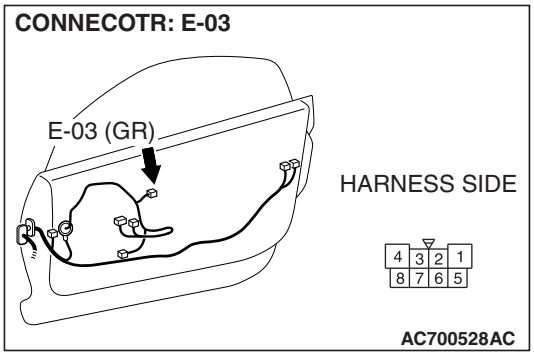
Q: Is the wiring harness between door switch (RH) connector D-01 (terminal 3) and ground in good condition?

YES : No action is necessary and testing is complete.

NO : The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. When the door switch (RH) is operated, the short stroke mechanism (RH) should raise and lower normally.

STEP 10. Check power window motor (RH) connector E-03 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

CONNECOTR: E-03

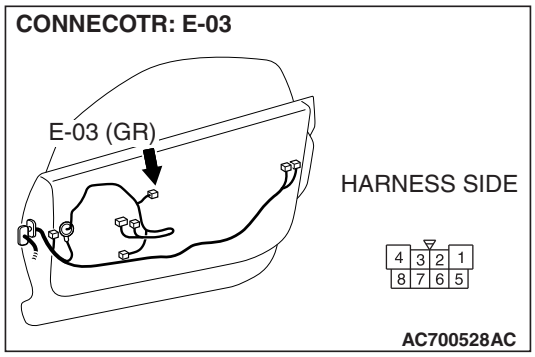


Q: Is power window motor (RH) connector E-03 in good condition?

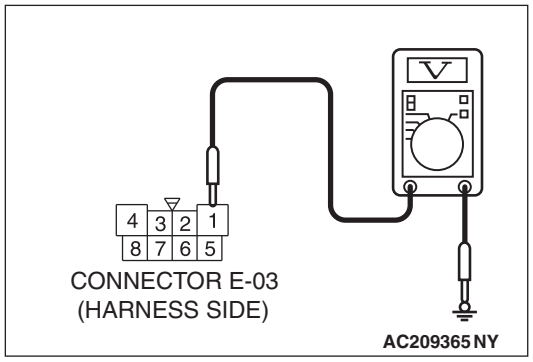
YES : Go to Step 11.

NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P.00E-2. The short stroke mechanism (RH) should raise and lower normally.

STEP 11. Check the battery power supply circuit to the power window motor (RH). Measure the voltage at power window motor (RH) connector E-03.



(1) Disconnect power window motor (RH) connector E-03 and measure the voltage available at the wiring harness side of the connector.
(2) Turn the ignition switch to "OFF" position.

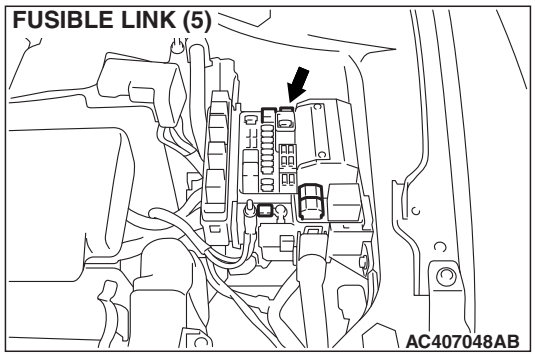


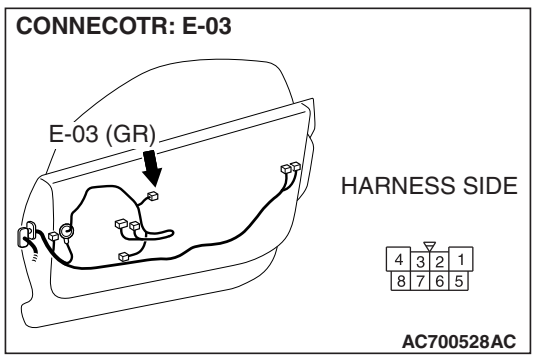
(3) Measure the voltage between terminal 1 and ground.
- The voltage should measure approximately 12 volts (battery positive voltage).

Q: Is the measured voltage approximately 12 volts (battery positive voltage)?

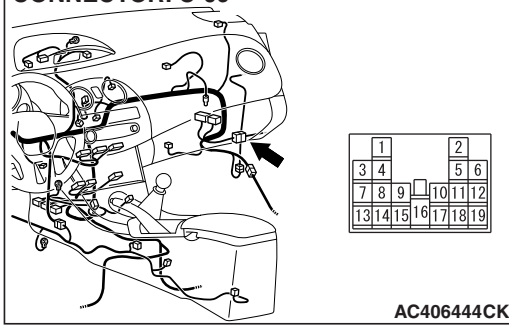
YES : Go to Step 13.
NO : Go to Step 12.

STEP 12. Check the wiring harness between power window motor (RH) connector E-03 (terminal 1) and fusible link (5).

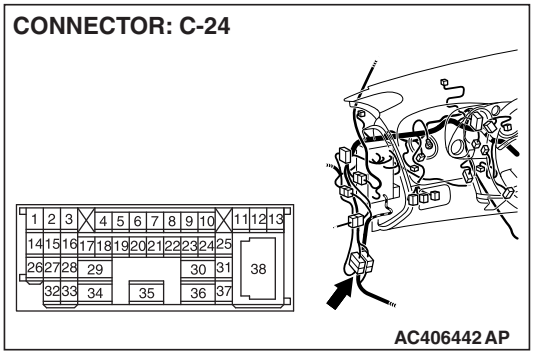




CONNECTOR: C-09



CONNECTOR: C-24



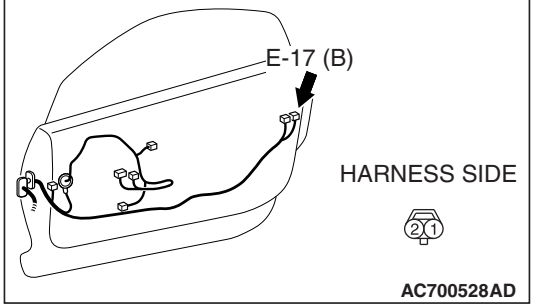
NOTE: Also check intermediate connector C-09 and C-24 for loose, corroded or damaged terminals, or terminals pushed back in the connectors. If intermediate connector C-09 or C-24 is damaged, repair or replace the damaged component(s) as described in GROUP 00E, Harness Connector Inspection P.00E-2.

Q: Is the wiring harness between power window motor (RH) connector E-03 (terminal 1) and fusible link (5) in good condition?

YES : No action is necessary and testing is complete.

NO : The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. The short stroke mechanism (RH) should raise and lower normally.

CONNECOTR: E-17

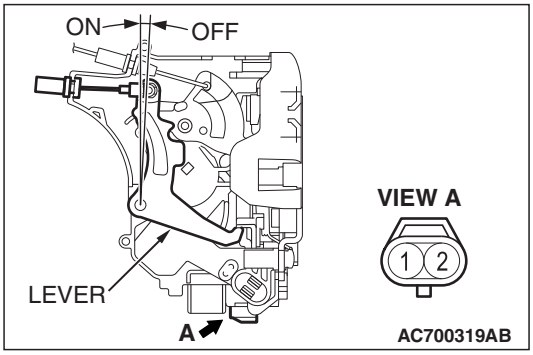


STEP 13. Check short stroke switch (RH) connector E-17 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is short stroke switch (RH) connector E-17 in good condition?

YES : Go to Step 14.

NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P.00E-2. The short stroke mechanism (RH) should raise and lower normally.



STEP 14. Check the short stroke switch (RH) for continuity.

(1) Remove the door latch assembly (RH). Refer to P.42-84.

(2) Check continuity when the short stroke switch (RH) is operated to "ON" or "OFF" position.

Switch position	Tester connection	Specified condition
ON	1 – 2	Less than 2 ohms
OFF	1 – 2	Open circuit

Q: Is the short stroke switch (LH) normal?

YES : Go to Step 15.

NO : Replace the door latch assembly (RH). The short stroke mechanism (RH) should raise and lower normally.

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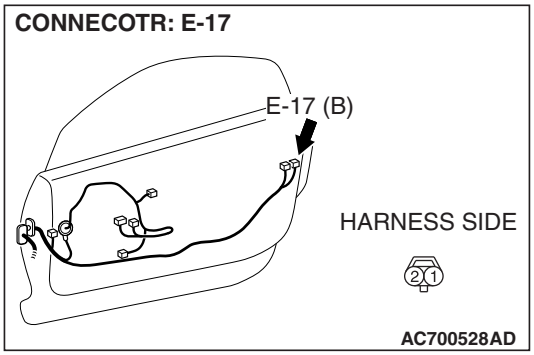
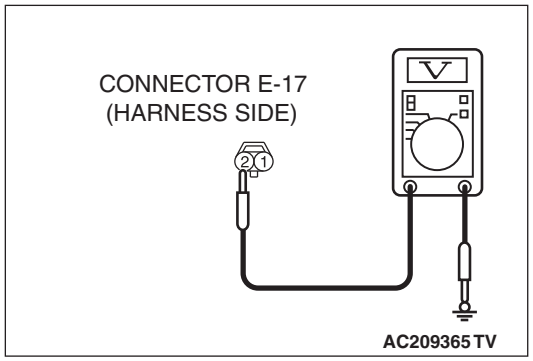
STEP 15. Check the battery power supply circuit to the short stroke switch (RH). Measure the voltage at short stroke switch (RH) connector E-17.

CONNECOTR: E-17



(1) Disconnect short stroke switch (RH) connector E-17 and measure the voltage available at the wiring harness side of the connector.
(2) Turn the ignition switch to "OFF" position.



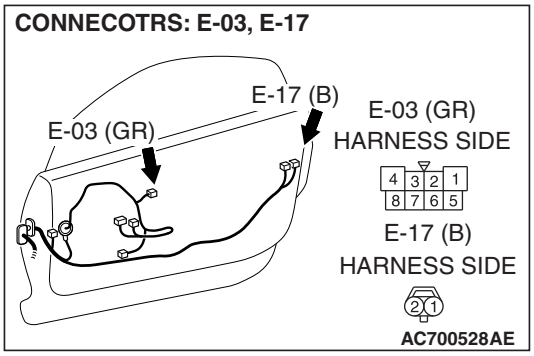
(3) Measure the voltage between terminal 2 and ground.
- The voltage should measure approximately 12 volts (battery positive voltage).

Q: Is the measured voltage approximately 12 volts (battery positive voltage)?

YES : Go to Step 17.
NO : Go to Step 16.

STEP 16. Check the wiring harness between power window motor (RH) connector E-03 (terminal 2) and short stroke switch (RH) connector E-17 (terminal 2).

CONNECOTRS: E-03, E-17

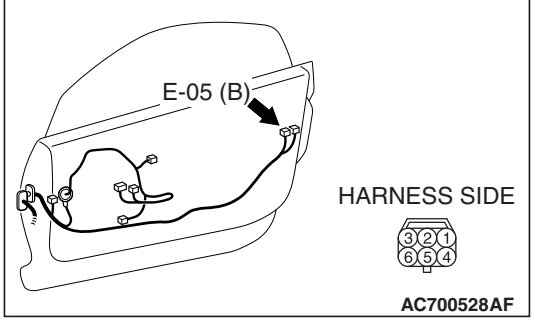


Q: Is the wiring harness between power window motor (RH) connector E-03 (terminal 2) and short stroke switch (RH) connector E-17 (terminal 2) in good condition?

YES : No action is necessary and testing is complete.
NO : The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. The short stroke mechanism (RH) should raise and lower normally.

STEP 17. Check door lock actuator (RH) connector E-05 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

CONNECOTR: E-05



Q: Is door lock actuator (RH) connector E-05 in good condition?

YES : Go to Step 18.
NO : Repair or replace the damaged component(s). Refer to GROUP 00E, Harness Connector Inspection P.00E-2. The short stroke mechanism (RH) should raise and lower normally.

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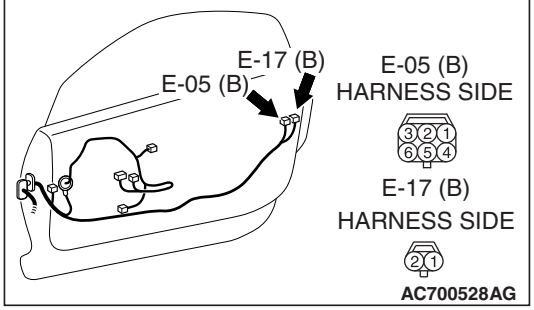
CONNECOTRS: E-05, E-17



STEP 18. Check the wiring harness between short stroke switch (RH) connector E-17 (terminal 1) and door lock actuator (RH) connector E-05 (terminal 1).

Q: Is the wiring harness between short stroke switch (RH) connector E-17 (terminal 1) and door lock actuator (RH) connector E-05 (terminal 1) in good condition?

YES : No action is necessary and testing is complete.

NO : The wiring harness may be damaged or the connector(s) may have loose, corroded or damaged terminals, or terminals pushed back in the connector. Repair the wiring harness as necessary. The short stroke mechanism (RH) should raise and lower normally.

DOOR DIAGNOSIS

INTRODUCTION TO GLASS AND DOOR DIAGNOSIS

M1423007300274

Glass and door faults include water leaks and improper opening and closing. Causes for these faults can include faults in the glass, weatherstrip, drain hole or door installation.

GLASS AND DOOR DIAGNOSTIC TROUBLESHOOTING STRATEGY

M1423006700291

Use these steps to plan your diagnostic strategy. If you follow them carefully, you will be sure that you have exhausted most of the possible ways to find a glass and door fault.

1. Gather information from the customer.
2. Verify that the condition described by the customer exists.
3. Find the malfunction by following the Symptom Chart.
4. Verify malfunction is eliminated.

SYMPTOM CHART

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Symptom	Inspection procedure	Reference page
Water leak through door window glass	1	P.42-52
Door window glass malfunction	2	P.42-52
Water leak through door edge	3	P.42-52
Water leak from door center	4	P.42-53
Door hard to open	5	P.42-53
Door does not open or close completely	6	P.42-53
Uneven gap between body	7	P.42-54
Wind noise around door	8	P.42-54

SYMPTOM PROCEDURES

INSPECTION PROCEDURE 1: Water Leak Through Door Window Glass

DIAGNOSIS

STEP 1. Check the window glass runchannel.

Q: Is the window glass runchannel in good condition?
YES : Go to Step 2.
NO : Replace the runchannel, then go to Step 4.

STEP 2. Check the door window glass installation.

Q: Is the door window glass installed correctly?
YES : Go to Step 3.
NO : Reinstall the door window glass (Refer to P.42-82). Then go to Step 4.

STEP 3. Check the clearance at the top of the door window glass.

Q: Is the clearance at the top of the door window glass correct?
YES : Go to Step 4.
NO : Adjust the door window glass (Refer to P.42-58). Then go to Step 4.

STEP 4. Retest the system.

Q: Is any water leaking?
YES : Return to Step 1.
NO : The procedure is complete.

INSPECTION PROCEDURE 2: Door Window Glass Malfunction

DIAGNOSIS

STEP 1. Check the door window glass installation condition.

Q: Is the door window installed correctly?
YES : Go to Step 2.
NO : Reinstall the door window glass (Refer to P.42-82). Then go to Step 4.

STEP 2. Check the delta window glass.

Q: Is the delta window glass in good condition?
YES : Go to Step 3.
NO : Repair or replace delta window glass, then go to Step 4.

STEP 3. Inspect the window regulator assembly.

Q: Is the window regulator assembly in good condition?
YES : Go to Step 4.
NO : Repair or replace the window regulator assembly, then go to Step 4.

STEP 4. Retest the system.

Q: Does the door window operate correctly?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 3: Water Leak Through Door Edge

DIAGNOSIS

STEP 1. Check the weatherstrip.

Q: Is the weatherstrip in good condition?
YES : Go to Step 2.
NO : Replace the weatherstrip, then go to Step 3.

STEP 2. Check the door fit (alignment).

Q: Is the door fit (alignment) correct?
YES : Go to Step 3.
NO : Adjust the door fit (Refer to P.42-58). Then go to Step 3.

STEP 3. Retest the system.

Q: Is any water leaking?
YES : Return to Step 1.
NO : The procedure is complete.

INSPECTION PROCEDURE 4: Water Leak from Door Center

DIAGNOSIS

STEP 1. Check the drain hole.

Q: Is the drain hole clogged?
YES : Clean the drain hole, then go to Step 3.
NO : Go to Step 2.

STEP 2. Check the weatherstrip.

Q: Is the weatherstrip in good condition?
YES : Go to Step 3.
NO : Repair or replace the weatherstrip, then go to Step 3.

STEP 3. Retest the system.

Q: Is any water leaking?
YES : Return to Step 1.
NO : The procedure is complete.

INSPECTION PROCEDURE 5: Door Hard to Open

DIAGNOSIS

STEP 1. Adjust the latch and striker engagement.

Q: Is the latch and striker engagement adjusted?
YES : Go to Step 2.
NO : Adjust the latch and striker (Refer to P.42-58). Then go to Step 4.

STEP 2. Check for lock cable and lock rod damage.

Q: Are the lock cable and the lock rod damaged?
YES : Repair or replace the lock cable and the lock rod, then go to Step 4.
NO : Go to Step 3.

STEP 3. Check the door handle flexibility (amount of movement of handle required to open door).

Q: Is the door handle flexibility good?
YES : Go to Step 4.
NO : Check the door outside handle and inside handle (Refer to P.42-78 and P.42-78). Then go to Step 4.

STEP 4. Retest the system.

Q: Does the door open easily?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 6: Door does not Open or Close Completely

DIAGNOSIS

STEP 1. Check the door hinge position.

Q: Is the door hinge correct?
YES : Go to Step 2.
NO : Adjust the door hinge (Refer to P.42-58). Then go to Step 4.

STEP 2. Check the door for damage.

Q: Is the door in good condition?
YES : Go to Step 3.
NO : Repair or replace the door, then go to Step 4.

STEP 3. Check lubrication.

Q: Are the door check and door hinge sufficiently lubricated?
YES : Go to Step 4.
NO : Apply grease, then go to Step 4.

STEP 4. Retest the system.

Q: Does the door open and close completely?
YES : The procedure is complete.
NO : Return to Step 1.

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INSPECTION PROCEDURE 7: Uneven Gap Between Body

DIAGNOSIS

Adjust the door fit (Refer to P.42-58). Then check that the gap has been improved.

INSPECTION PROCEDURE 8: Wind Noise Around Door

DIAGNOSIS

STEP 1. Check the weatherstrip for holding condition.

Q: Is the weatherstrip holding firmly?
YES : Go to Step 2.
NO : Adjust fit of weatherstrip. Then go to Step 5.

STEP 2. Check the weatherstrip for installation condition.

Q: Is the weatherstrip installed properly?
YES : Go to Step 3.
NO : Repair or replace the weatherstrip. Then go to Step 5.

STEP 3. Check the clearance.

Q: Are the door glass and door weatherstrip holder installed properly?
YES : Go to Step 4.
NO : Adjust the door glass and the weatherstrip holder (Refer to P.42-60 <ECLIPSE>, P.42-66 <ECLIPSE SPYDER>). Then go to Step 5.

STEP 4. Check the door for deformation.

Q: Is the door deformed?
YES : Replace the door. Then go to Step 5.
NO : Go to Step 5.

STEP 5. Retest the system.

Q: Has the wind noise been improved?
YES : Return to Step 1.
NO : This diagnosis complete.

HOW TO LOCATE WIND NOISE

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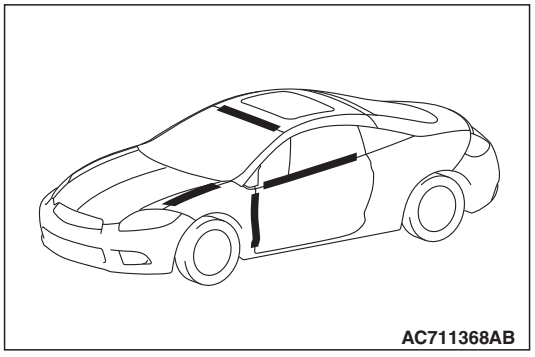
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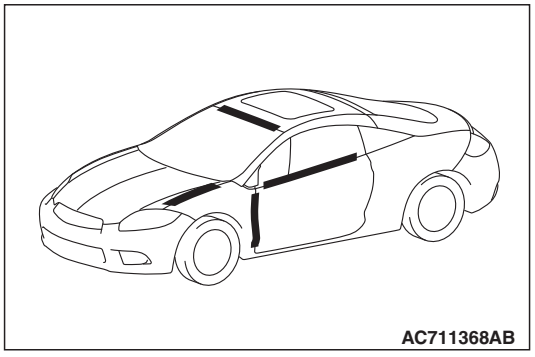
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1. Attach cloth tape to every place, such as panel seams, projections, molding seams, glass and body seams, etc. which might conceivably be the source of wind noise.
2. Then make a road test to check that the places not covered by tape are not sources of wind noise.
3. Remove the strips of tape one by one, making a road test after each is removed, until a wind noise source is discovered.

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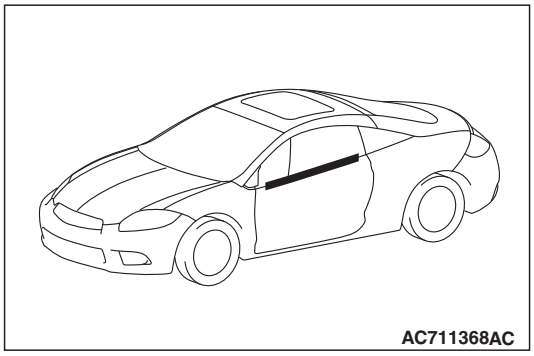
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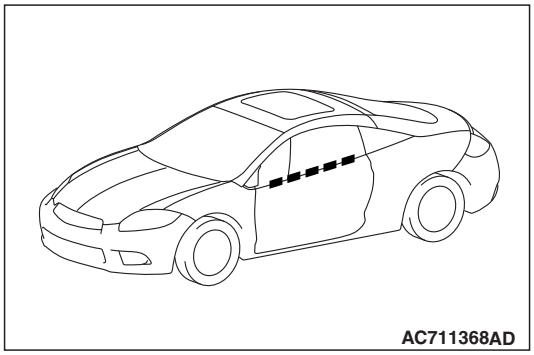
4. When such a place is found, cover it again and repeat the procedure to check if there are any other noise source.
5. If no others are found, the last remaining tape is the only source.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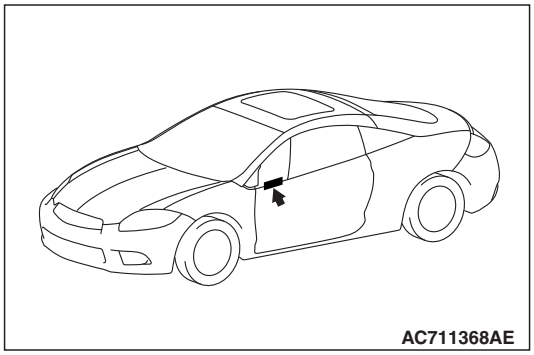
6. Cut the remaining piece of tape into smaller pieces, attach it again as it was before, and then remove the pieces one by one to narrow down the source.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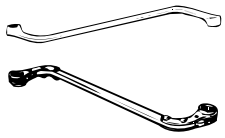
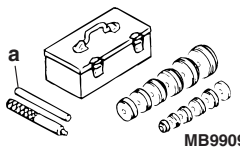
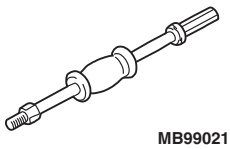
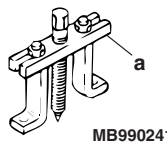
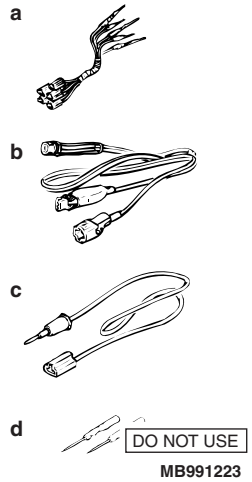
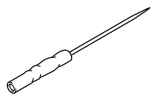
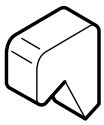
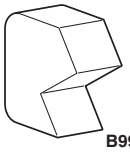
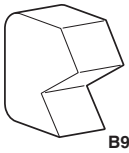
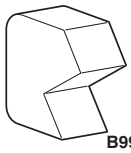
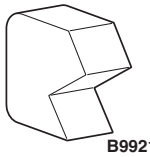
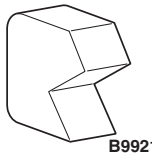
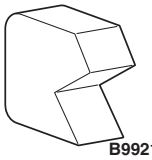
7. Check that wind noise occurs when the last remaining tape is removed, and that noise does not occur when it is re-attached.
8. When the source(s) of the wind noise is finally located, attach butyl tape, body sealer or similar material to obstruct this source as much as possible.

SPECIAL TOOLS

M1423000600757

Tool	Tool number and name	Supersession	Application
 MB990900	MB990900 or MB991164 Door adjusting wrench	MB990900-01	Adjustment of door fit
 MB990925AI	MB990925 Bearing and oil seal installer set a: MB990939 Remover bar	MB990925-01 or General service tool	Adjustment of door striker
 MB990211	MB990211 Slider hammer	MB990211-01	
 MB990241AI	MB990241 Axle shaft puller a: MB990243 Body puller	MB990241-01 or General service tool	
 MB991223	MB991223 Harness set a: MB991219 Test harness b: MB991220 LED harness c: MB991221 LED harness adapter d: MB991222 Probe	General service tools	Making voltage and resistance measurement during troubleshooting a: Connector pin contact pressure inspection b: Power circuit inspection c: Power circuit inspection d: Commercial tester connection
 MB992006	MB992006 Extra fine probe	General service tool	Making voltage and resistance measurement during troubleshooting

Tool	Tool number and name	Supersession	Application
a MB992051 b MB992052 MB992050AC	MB992050 Delta glass adjust block set a: MB992051 Delta glass adjust block a b: MB992052 Delta glass adjust block b	–	Adjustment of delta window glass
c MB992054 d MB992055 e  MB992056 f MB992057 MB992053AC	MB992053 Door glass adjust block set c: MB992054 Door glass adjust block c d: MB992055 Door glass adjust block d e: MB992056 Door glass adjust block e f: MB992057 Door glass adjust block f	–	Adjustment of front door window glass <ECLIPSE>

Tool	Tool number and name	Supersession	Application
g  B992165 h  B992166 i  B992167 j  B992168 k  B992169 l  B992170 B992164AC	MB992164 Glass adjust block set g: MB992165 Glass adjust block g h: MB992166 Glass adjust block h i: MB992167 Glass adjust block i j: MB992168 Glass adjust block j k: MB992169 Glass adjust block k l: MB992170 Glass adjust block l	–	Adjustment of front door window glass and quarter window glass <ECLIPSE SPYDER>

ON-VEHICLE SERVICE

FRONT DOOR FIT ADJUSTMENT

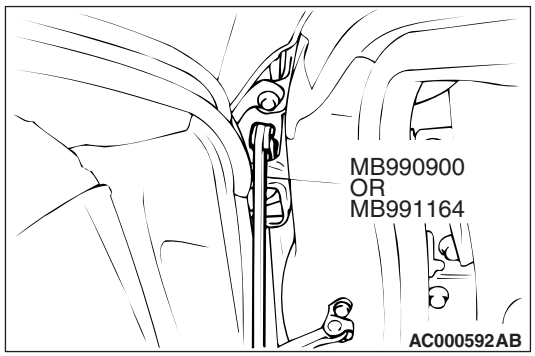
M1423001200042

Required Special Tools:

- MB990211: Slide Hammer
- MB990243: Body Puller
- MB990900 or MB991164: Door adjusting Wrench
- MB990939: Brass Bar

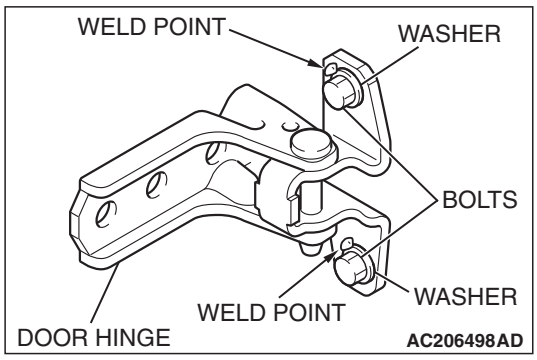
⚠ CAUTION

- **Attach protection tape to the fender and door edges where the hinge is installed.**
- **Do not rotate special tool MB991164 with a torque of over 98 N·m (72 ft-lb).**



1. Use special tool MB990900 or MB991164 to loosen the hinge mounting bolts on the body side, and then adjust the clearance around the door so that it is uniform on all sides.
2. If a door is not flush with its surrounding panels, loosen the door-side door hinge mounting bolts and adjust the door as necessary.

   NOTE: If the door hinge mounting bolt washers are welded, grind off the welding according to the procedure below beforehand.

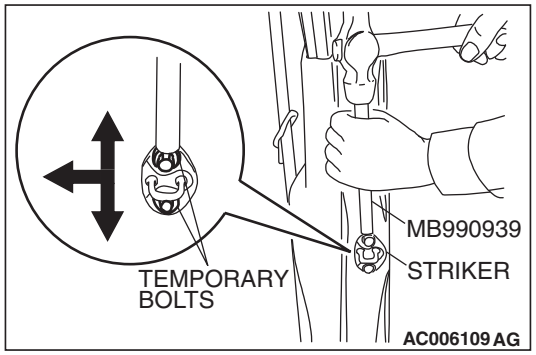


1. Remove the door hinge. (Refer P.42-80.)
2. Use a chisel or grinder to release the door hinge mounting bolt washer, which is welded to the door hinge.
3. On completion, paint the affected area with touch-up paint to prevent corrosion.
4. Install the door hinge. (Refer P.42-80.)

3. If the door is stiff to lock and unlock:

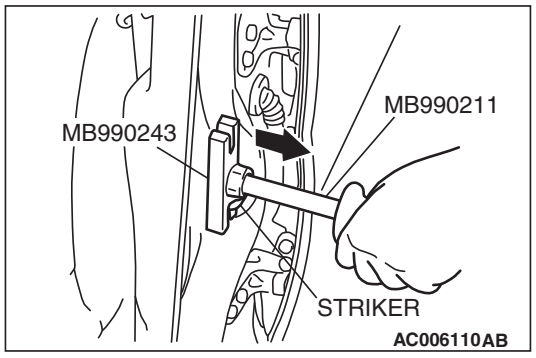
(1) Adjust the striker (vertically or toward the inside of the vehicle)

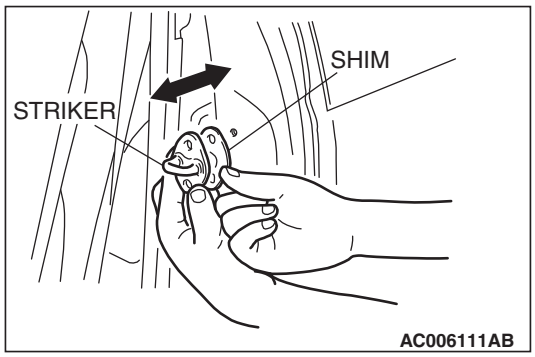
Install a temporary bolt instead of the striker mounting bolt, and use special tool MB990939 and a hammer to tap the bolt in the desired direction.



(2) Adjust the striker (toward the outside of the vehicle)

Use special tools MB990211 and MB990243 to pull the striker toward the outside of the vehicle.





(3) Adjust by using shims (forward and rearward)
Increase or decrease the number of shims so that the striker engages with the door latch properly.

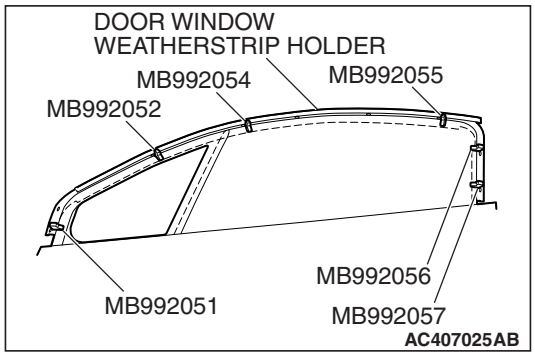
DOOR WINDOW GLASS ADJUSTMENT <ECLIPSE>

M1423001000606

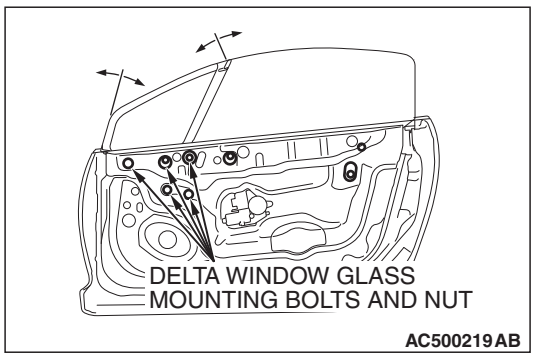
Required Special Tools:

- MB992050: Delta glass adjust block set
  - MB992051: Delta glass adjust block A
  - MB992052: Delta glass adjust block B
- MB992053: Door glass adjust set
  - MB992054: Door glass adjust block C
  - MB992055: Door glass adjust block D
  - MB992056: Door glass adjust block E
  - MB992057: Door glass adjust block F

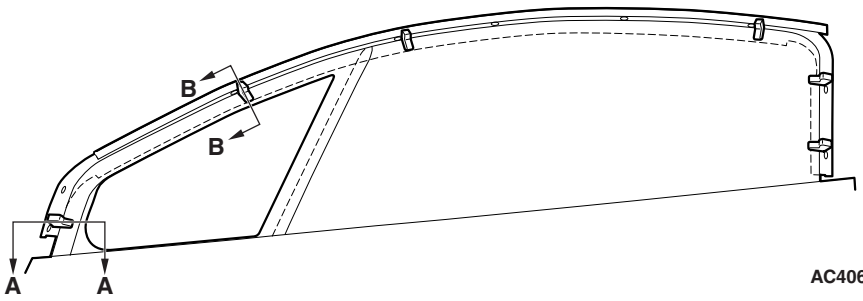
1. Remove the door trim (Refer to GROUP 52A, Door Trim P.52A-34).
2. Remove the door drip weatherstrip (Refer to P.42-93).
3. Install special tools MB992050 and MB992053 beside the mounting hole of the door window weatherstrip holder.
4. Close the door window glass fully.



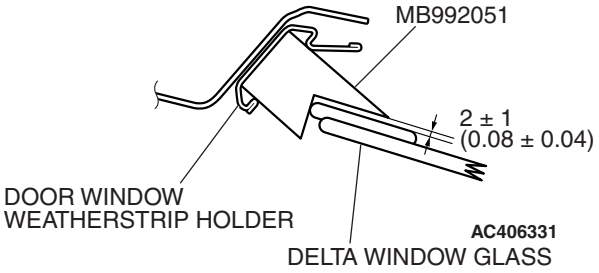
5. Adjust the position of the delta window glass in the fore/aft direction and the vertical direction.
   (1) Loosen the delta window glass mounting bolts and nut.



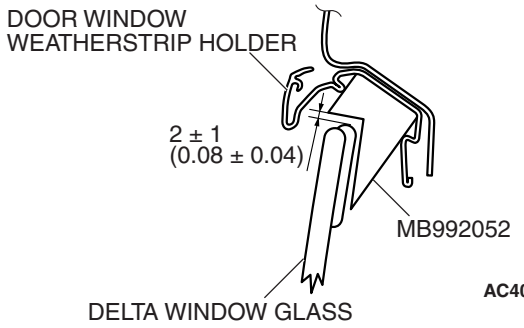
UNITS: mm (in)



SECTION A – A

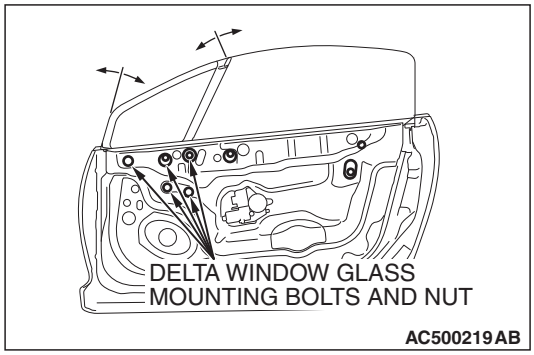


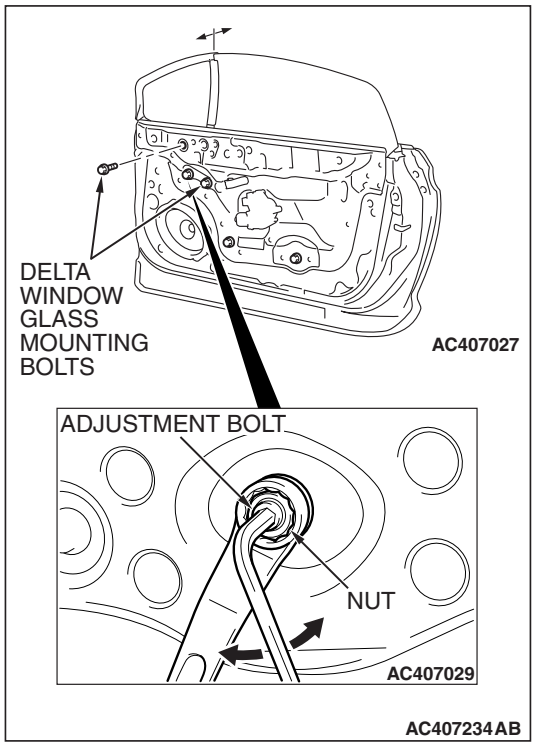
SECTION B – B



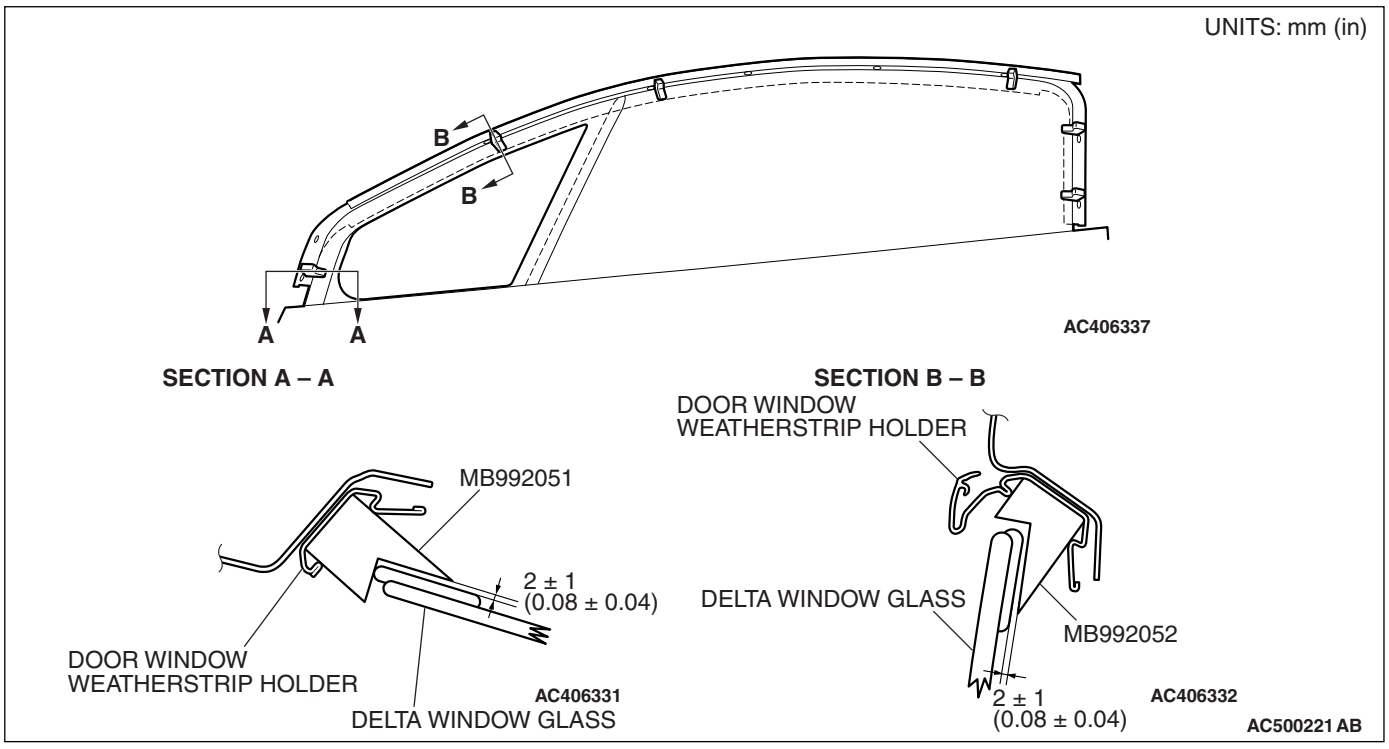
AC500220AB

(2) Adjust the delta window glass to the position shown by moving them in the fore/aft direction the vertical direction.
(3) Tighten the delta window glass mounting bolts and nut.

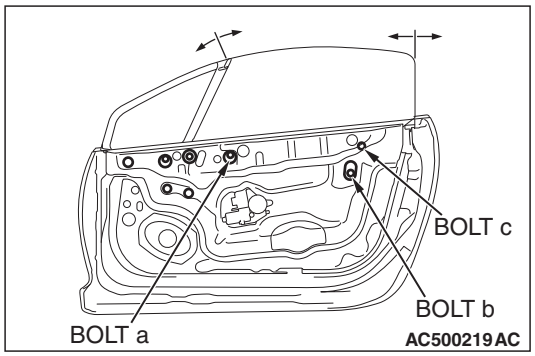




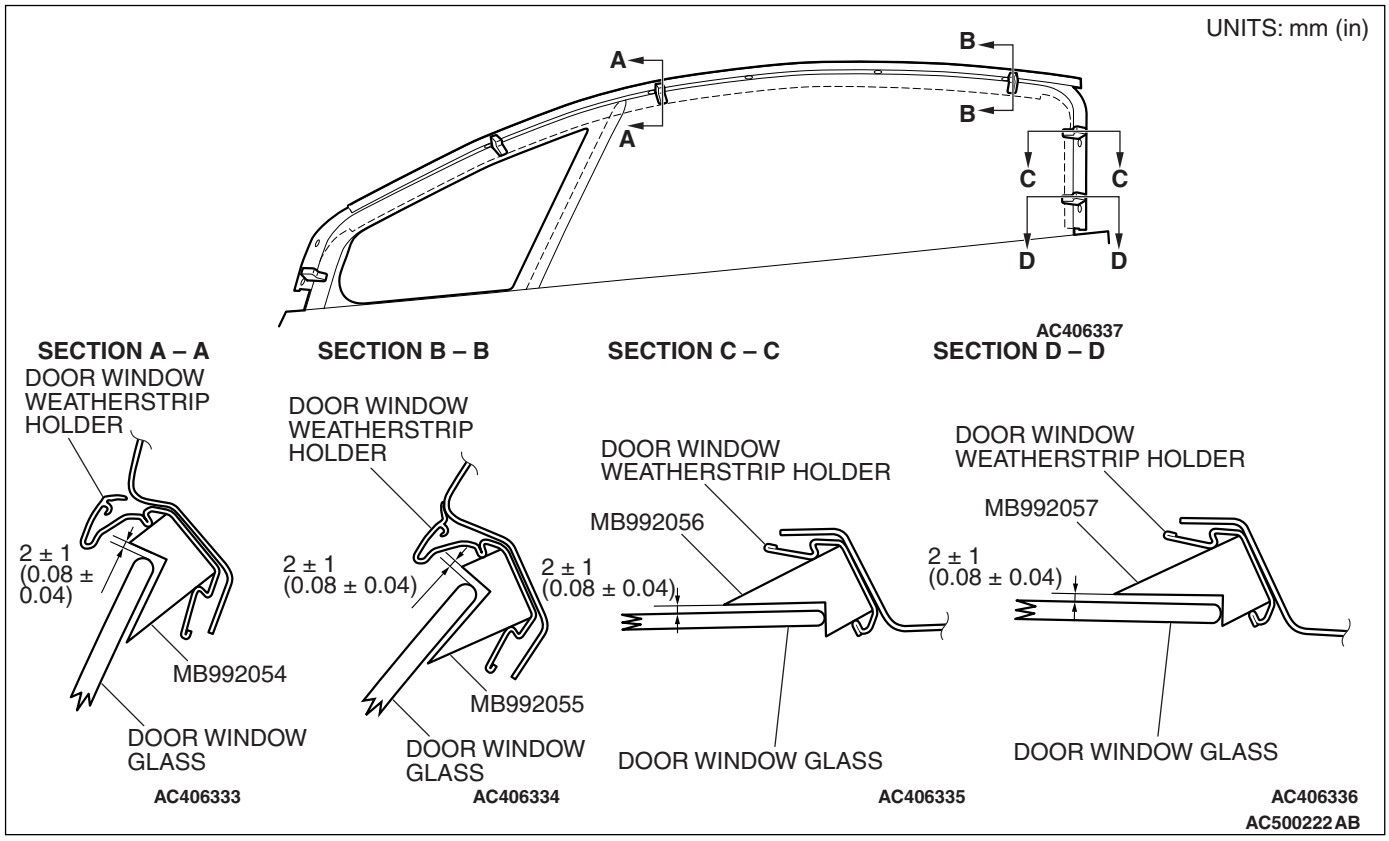
6. Adjust the tilt angle of the delta window glass.
   (1) Loosen the delta window glass mounting bolts and nut.
   (2) Turn the adjustment bolt. The tilting direction of the delta window glass is altered by approximately 2 mm (0.08 inch) when turning the adjustment bolt one rotation.

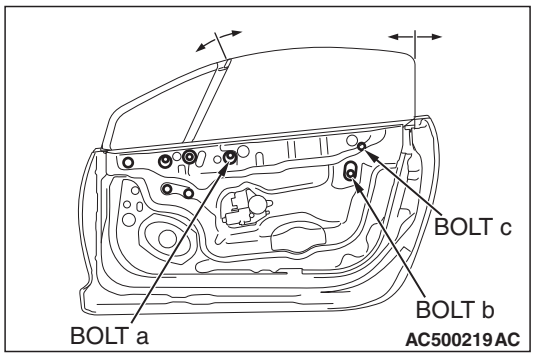


   (3) Adjust tilt angle of the delta window glass as shown.
   (4) Tighten the delta window glass mounting bolts and nuts.
7. Adjust the position of the door window glass in the fore/aft direction and the vertical direction.

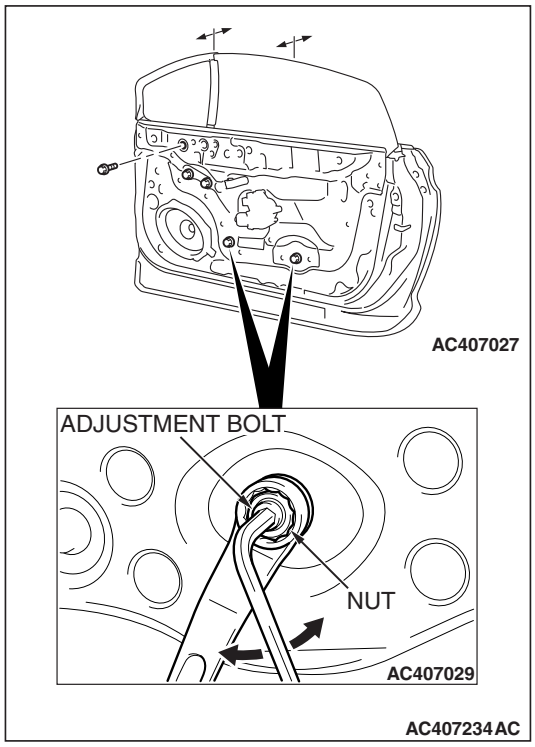


(1) Loosen door window glass mounting bolts a, b, and c as follows:
a. Loosen bolt a and bolt b with the door window glass fully closed.
b. Lower the door window glass to the position that bolt c can be seen at the hole where bolt b was loosened.
c. Loosen bolt c.

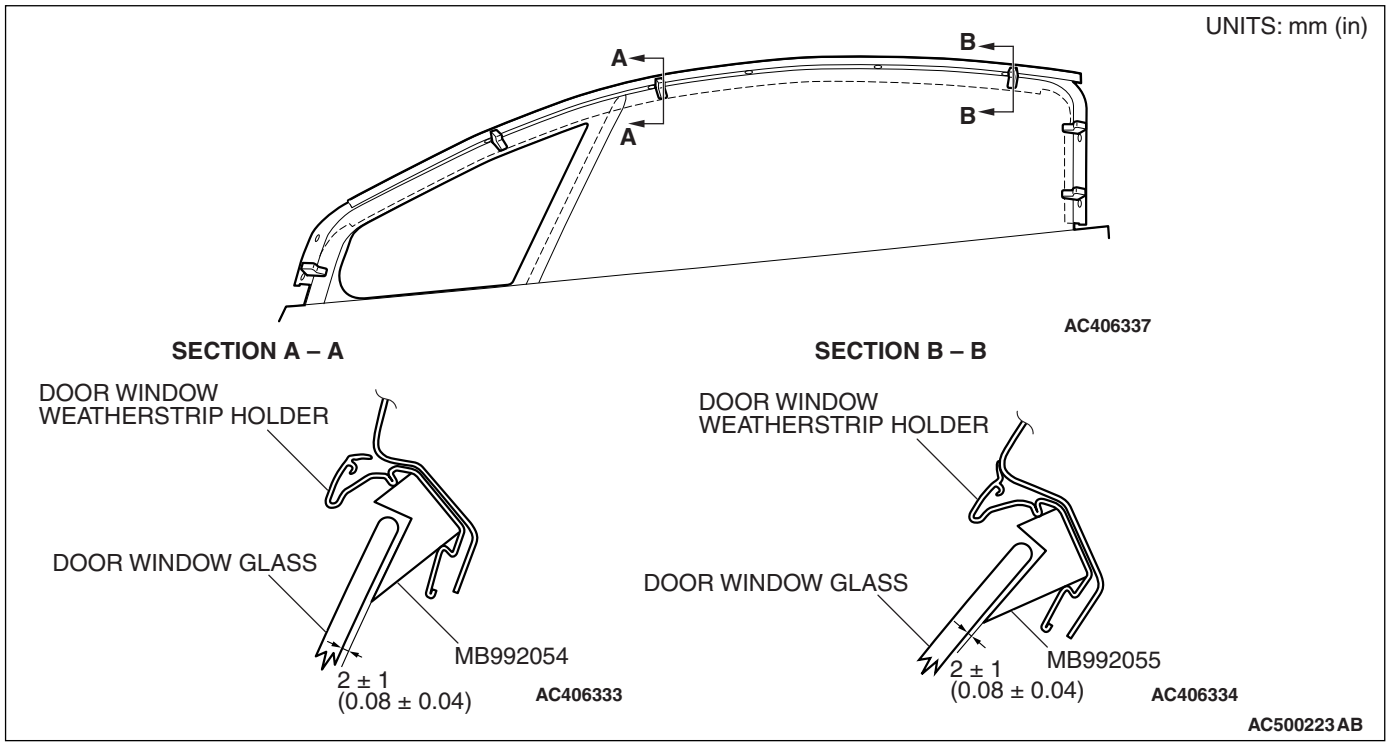




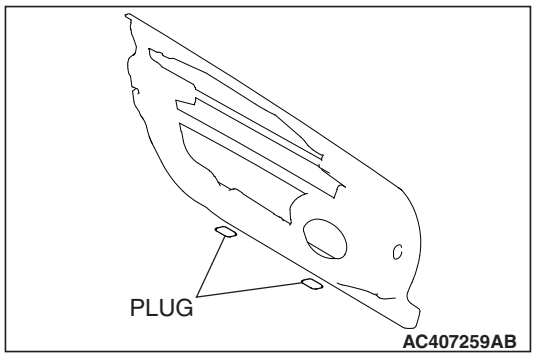
(2) Adjust the door window glass to the position shown by moving them in the fore/aft direction the vertical direction.
(3) Tighten door window glass mounting bolts a, b, and c as follows:
a. Temporarily tighten bolt a and bolt b with the door window glass fully closed.
b. Lower the door window glass to the installation position of bolt c.
c. Tighten bolt c.
d. Tighten bolt a and bolt b with the door window glass fully closed.



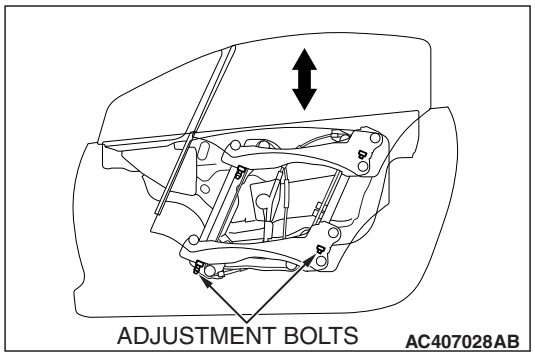
8. Adjust the tilt angle of the door window glass.
   (1) Loosen the door window glass mounting nuts.
   (2) Turn the adjustment bolt. The tilting direction of the door window glass is altered by approximately 1 mm (0.04 inch) when turning the adjustment bolt one rotation.



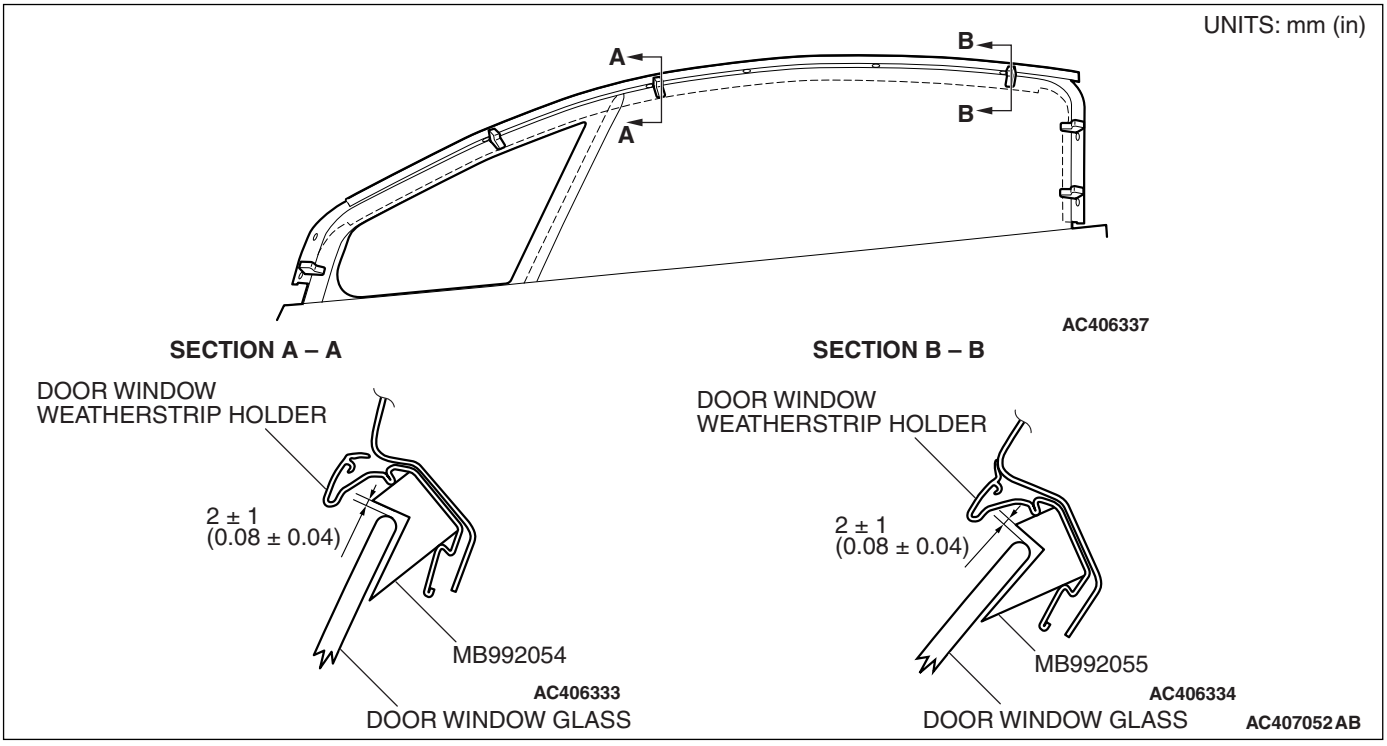
   (3) Adjust tilt angle of the door window glass as shown.
   (4) Tighten the door window glass mounting nuts.
9. Adjust the position of the door window glass in the vertical direction.
   (1) Lower the door window glass to the fully open position.



(2) Remove the plugs.



(3) Turn the adjustment bolts with an E-shape torque wrench (size: Q6E6). The height of the door window glass is altered by approximately 1 mm (0.04 inch) when turning the adjustment bolt one rotation.



(4) Adjust the position of the door window glass in the vertical direction as shown.

(5) Install the plugs.

10. Remove special tools MB992050 and MB992053.
11. Install the door drip weatherstrip (Refer to P.42-93).
12. After adjustment, check that the following operations work normally.
    - Power window
    - Opening/closing of the doors
    - Short stroke mechanism

TSB Revision

13.Install the door trim (Refer to GROUP 52A, Door Trim P.52A-34).

DOOR WINDOW GLASS ADJUSTMENT <ECLIPSE SPYDER>

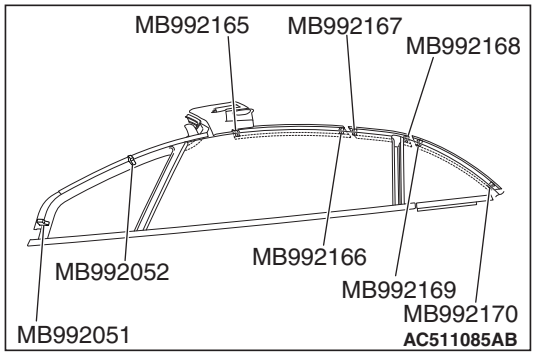
M1423001000617

Required Special Tools:

- MB992050: Delta glass adjust block set
  - MB992051: Delta glass adjust block A
  - MB992052: Delta glass adjust block B
- MB992164: Glass adjust block set
  - MB992165: Glass adjust block G
  - MB992166: Glass adjust block H
  - MB992167: Glass adjust block I
  - MB992168: Glass adjust block J
  - MB992169: Glass adjust block K
  - MB992170: Glass adjust block L

1. Adjust the convertible top (Refer to P.42-245).
2. Remove the door trim (Refer to GROUP 52A, Door Trim P.52A-34).
3. Remove the front rail weatherstrip, center rail weatherstrip and No.5 bow weatherstrip (Refer to P.42-270).
4. Remove the front pillar and front roof weatherstrip (Refer to P.42-270).
5. Remove the quarter window plug (Refer to P.42-34).
6. Install special tool MB992050 beside the mounting hole of the windshield holder.

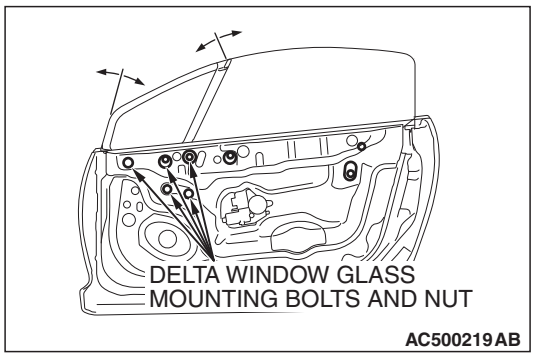
   NOTE: Install special tool so that they contact the windshield holder mounting screws around the positions as shown.

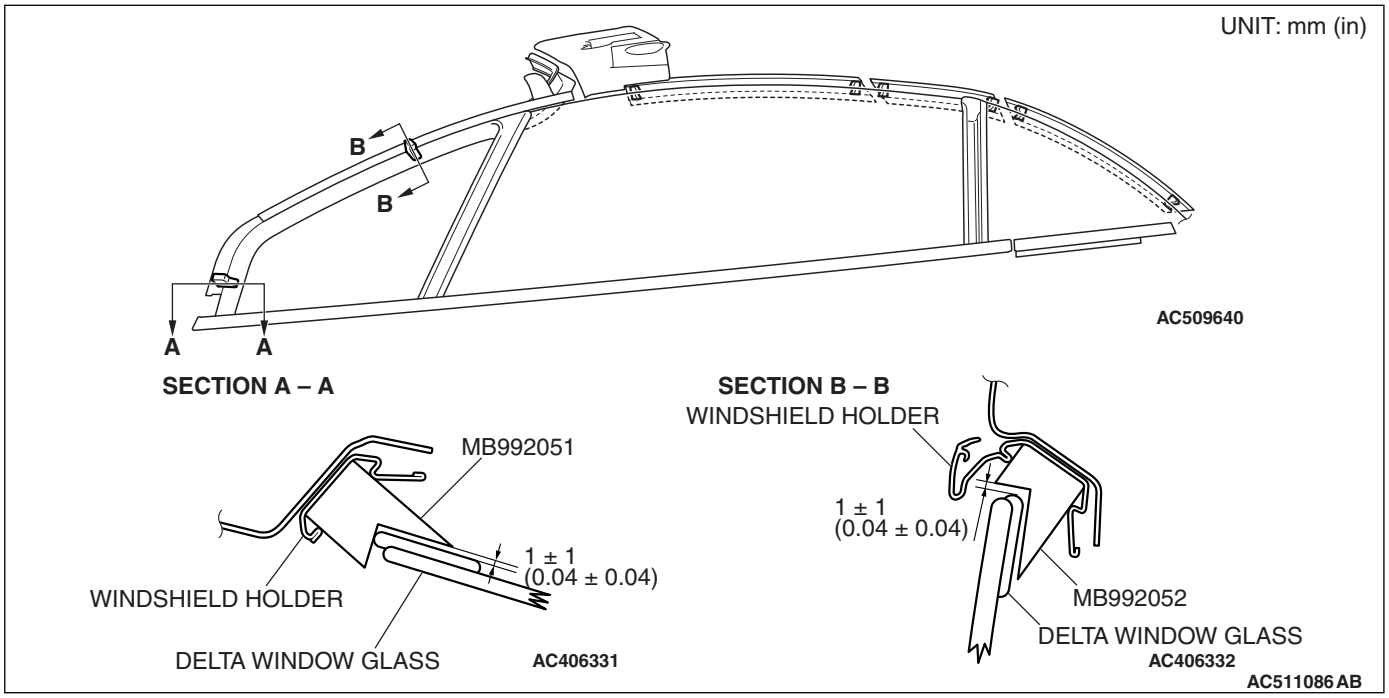


7. Install special tool MB992164 beside the mounting hole of the weatherstrip holder.

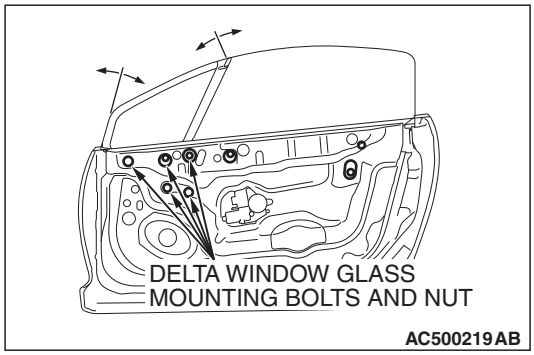
   NOTE: Install special tool so that they contact the weatherstrip holder mounting screw or mounting bolt around the positions as shown.

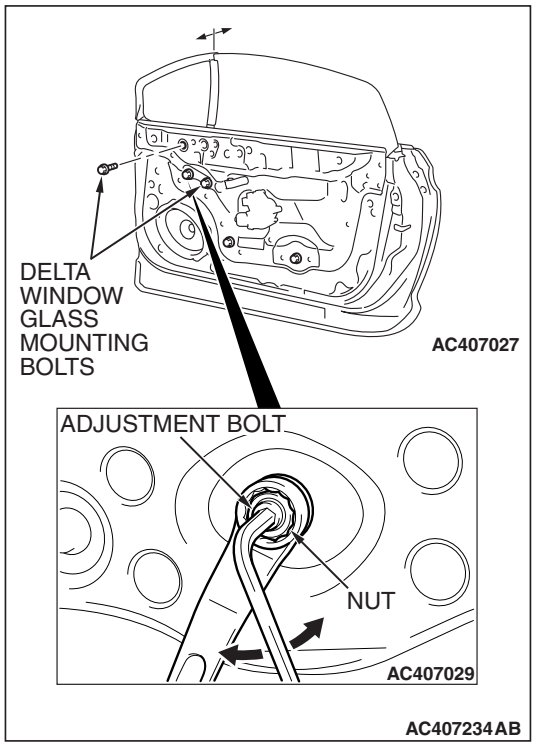
8. Close the door window glass fully.
9. Adjust the position of the delta window glass in the fore/aft direction and the vertical direction.
   (1) Loosen the delta window glass mounting bolts and nut.



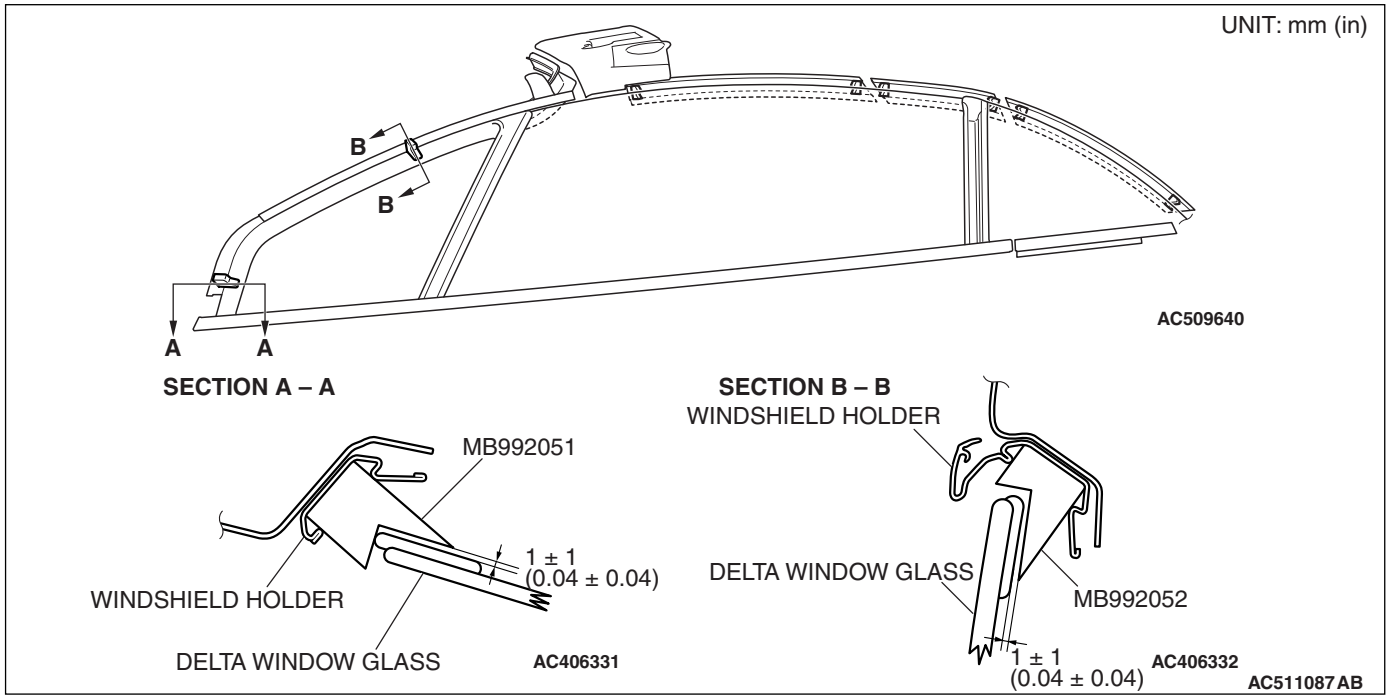


(2) Adjust the delta window glass to the position shown by moving them in the fore/aft direction the vertical direction.
(3) Tighten the delta window glass mounting bolts and nut.

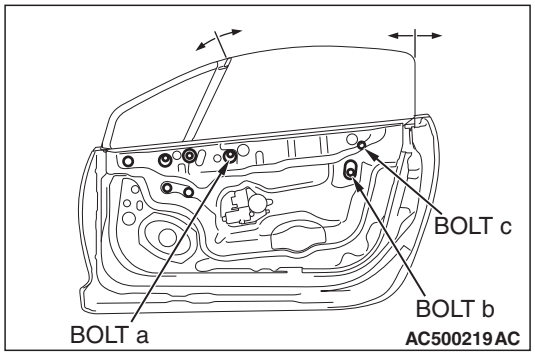




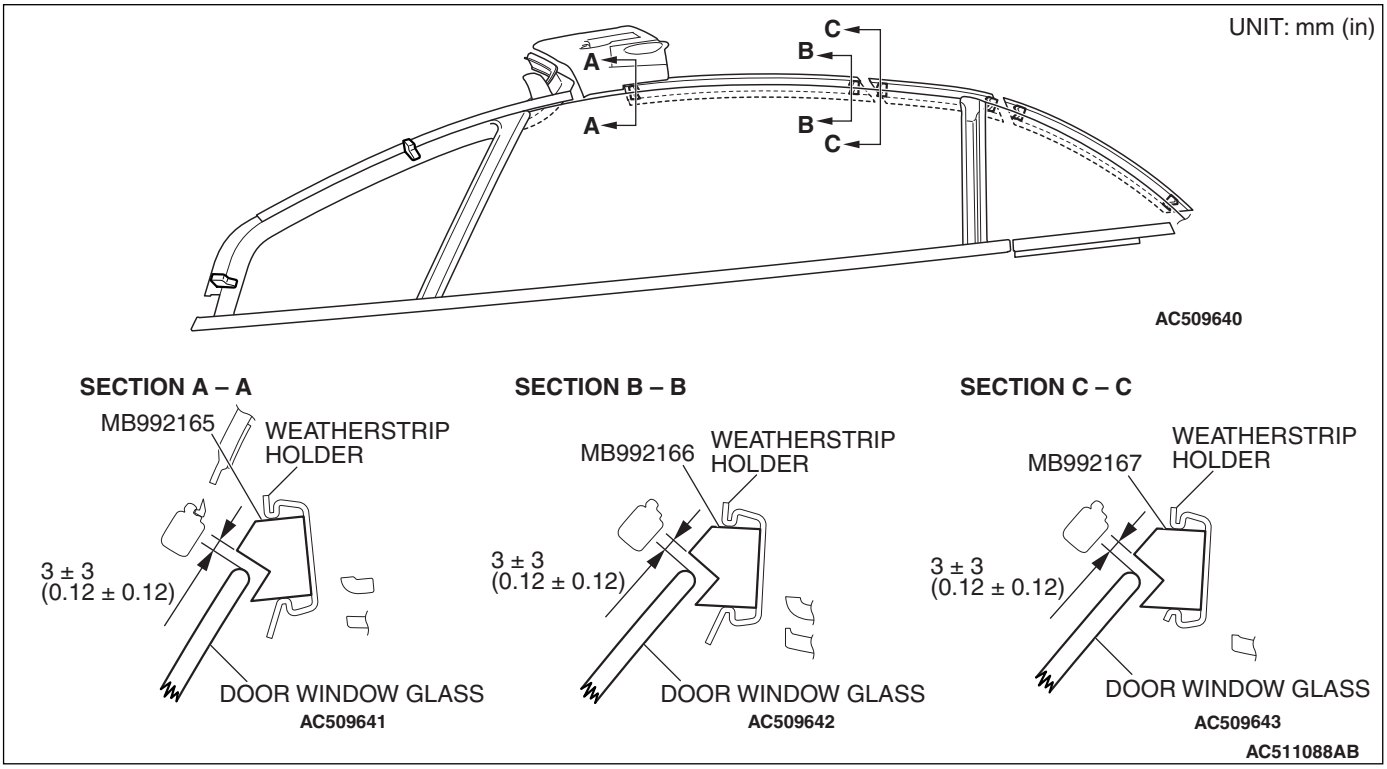
10.Adjust the tilt angle of the delta window glass.
(1) Loosen the delta window glass mounting bolts and nut.
(2) Turn the adjustment bolt. The tilting direction of the delta window glass is altered by approximately 2 mm (0.08 inch) when turning the adjustment bolt one rotation.



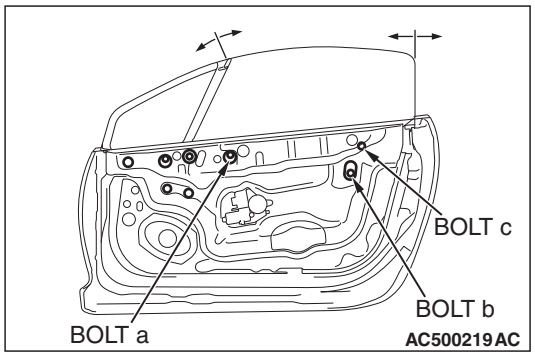
(3) Adjust tilt angle of the delta window glass as shown.
(4) Tighten the delta window glass mounting bolts and nuts.

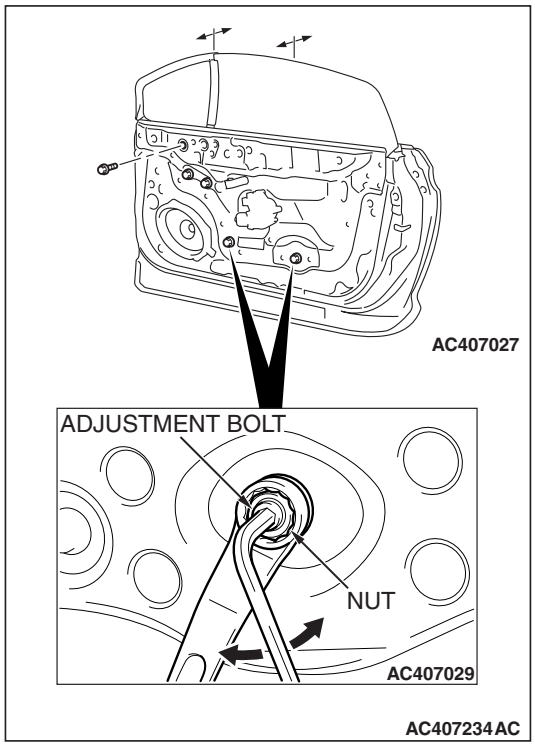


11. Adjust the position of the door window glass in the fore/aft direction and the vertical direction.
    (1) Loosen door window glass mounting bolts a, b, and c as follows:
        a. Loosen bolt a and bolt b with the door window glass fully closed.
        b. Lower the door window glass to the position that bolt c can be seen at the hole where bolt b was loosened.
        c. Loosen bolt c.

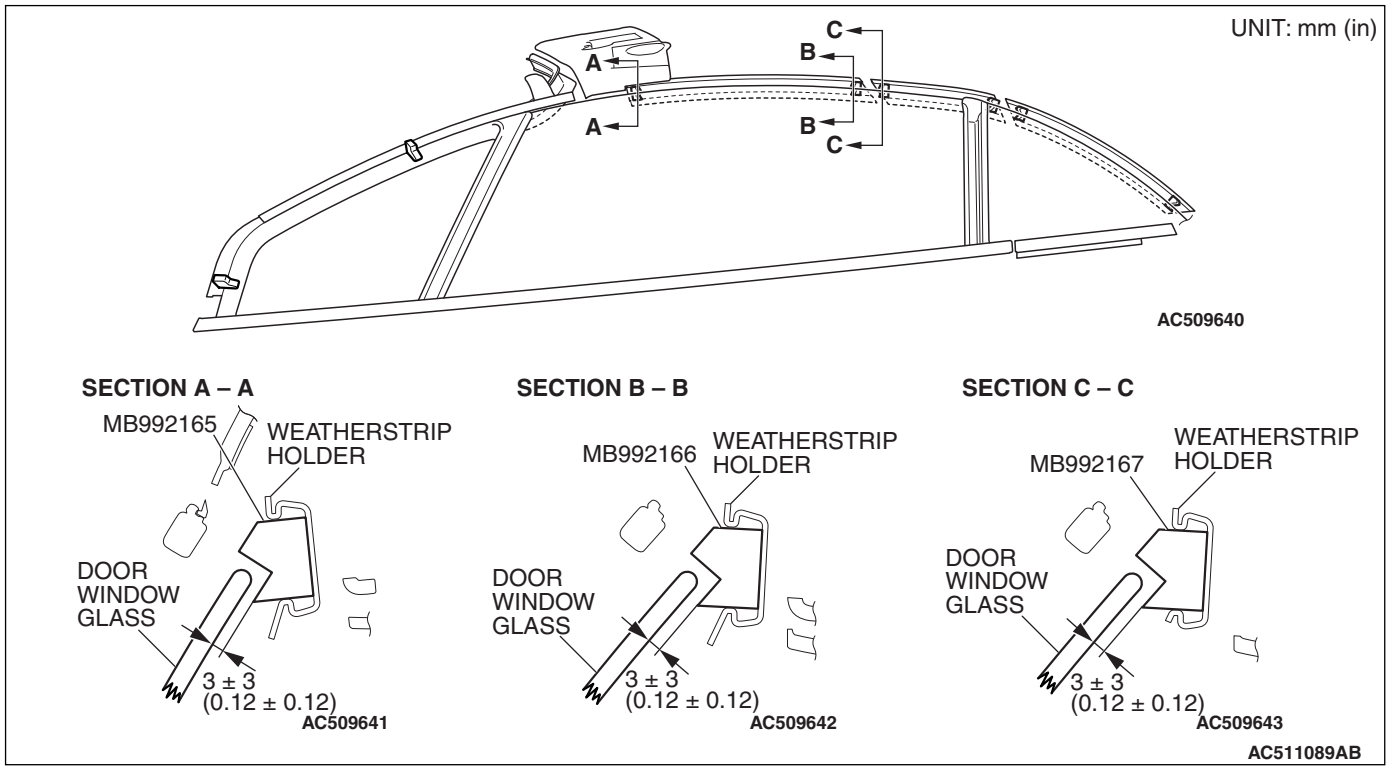


    (2) Adjust the door window glass to the position shown by moving them in the fore/aft direction the vertical direction.
    (3) Tighten door window glass mounting bolts a, b, and c as follows:
        a. Temporarily tighten bolt a and bolt b with the door window glass fully closed.
        b. Lower the door window glass to the installation position of bolt c.
        c. Tighten bolt c.
        d. Tighten bolt a and bolt b with the door window glass fully closed.



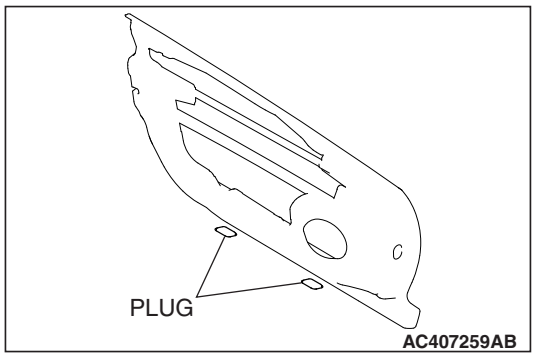


12.Adjust the tilt angle of the door window glass.
(1) Loosen the door window glass mounting nuts.
(2) Turn the adjustment bolt. The tilting direction of the door window glass is altered by approximately 1 mm (0.04 inch) when turning the adjustment bolt one rotation.

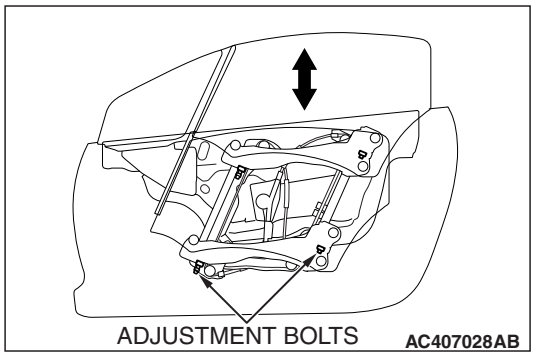


(3) Adjust tilt angle of the door window glass as shown.
(4) Tighten the door window glass mounting nuts.

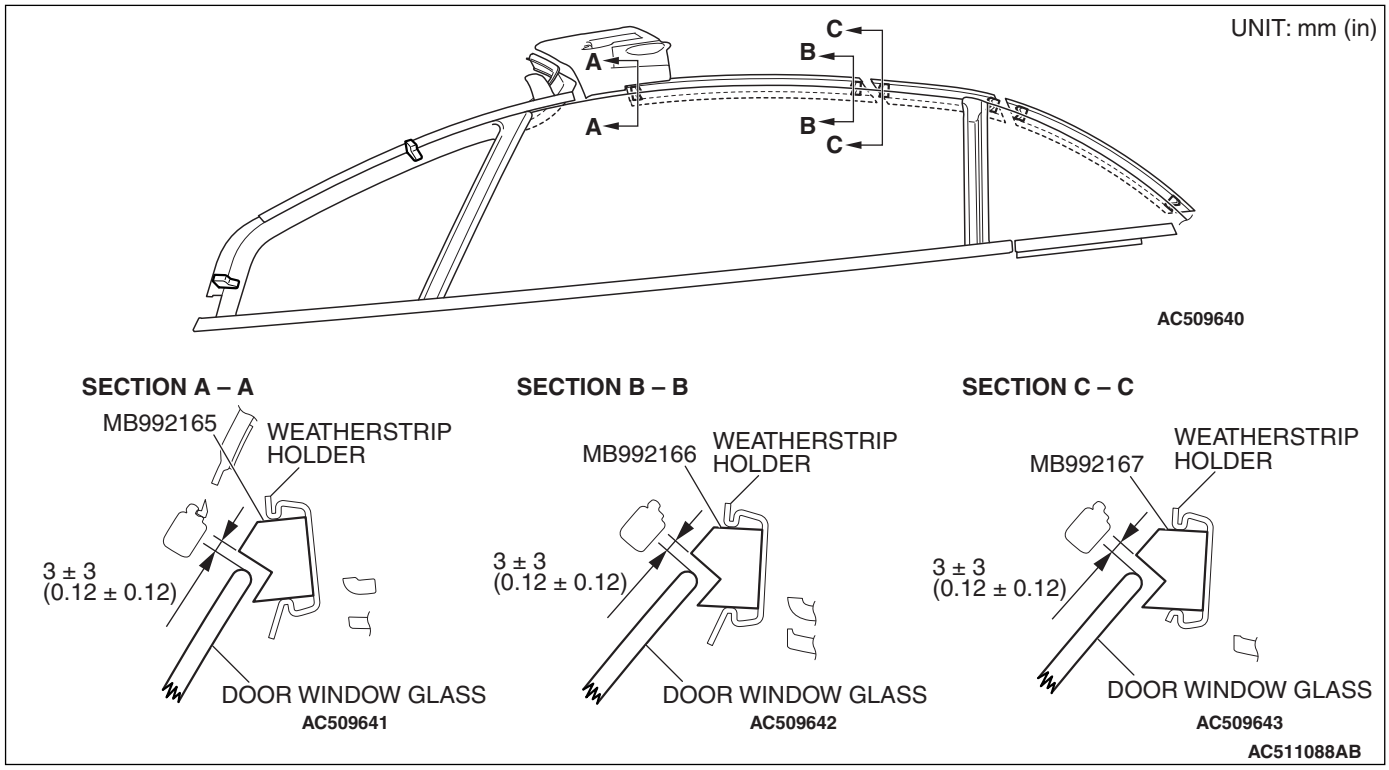
13.Adjust the position of the door window glass in the vertical direction.
(1) Lower the door window glass to the fully open position.



(2) Remove the plugs.



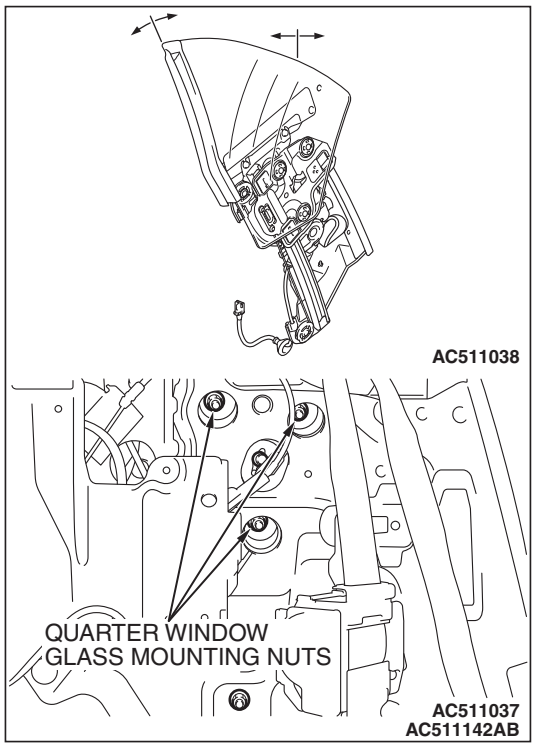
(3) Turn the adjustment bolts with an E-shape torque wrench (size: Q6E6). The height of the door window glass is altered by approximately 1 mm (0.04 inch) when turning the adjustment bolt one rotation.

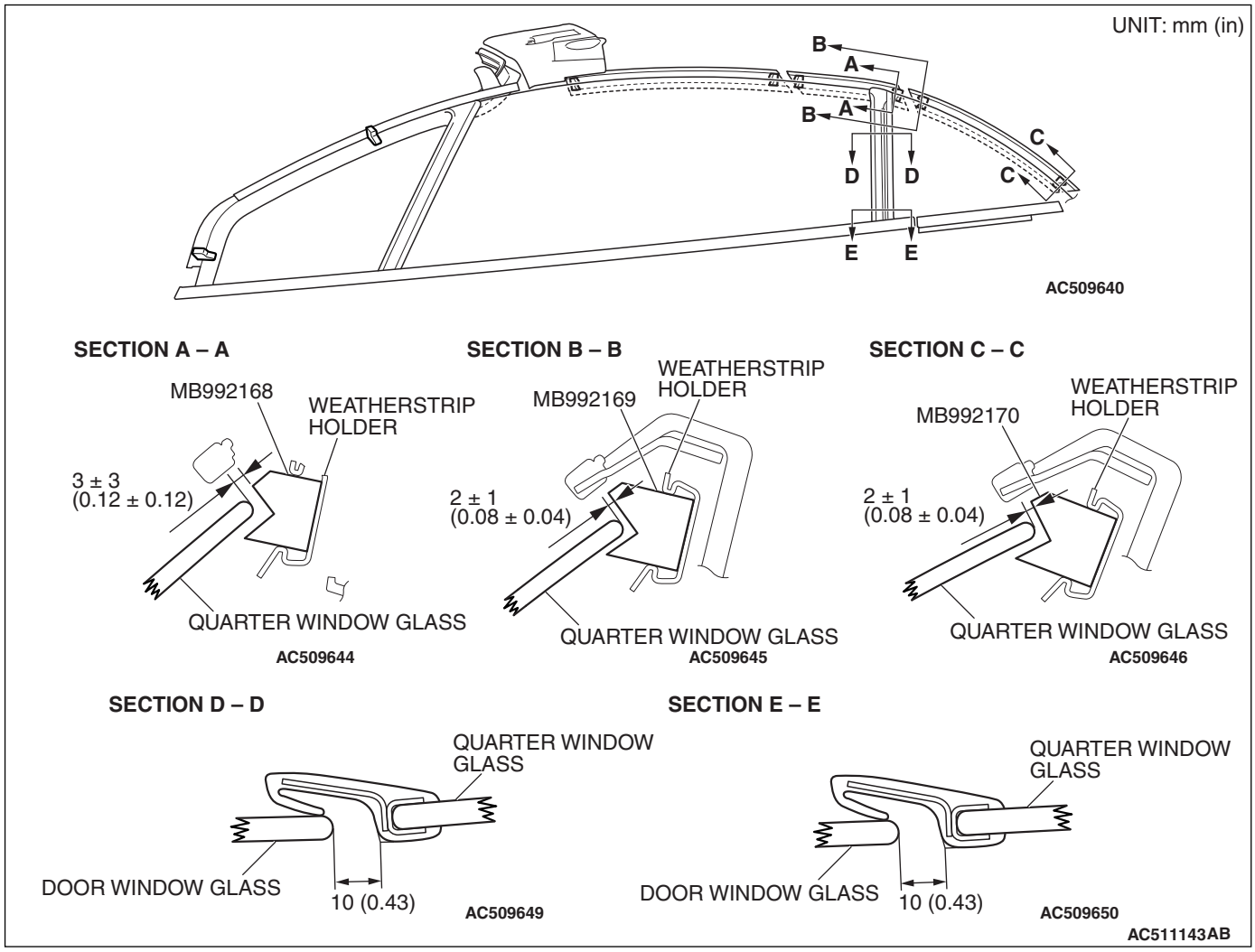


(4) Adjust the position of the door window glass in the vertical direction as shown.

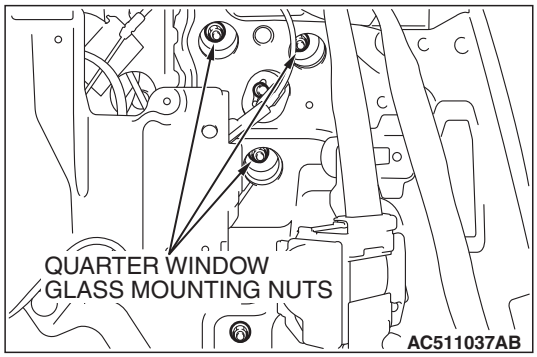
(5) Install the plugs.

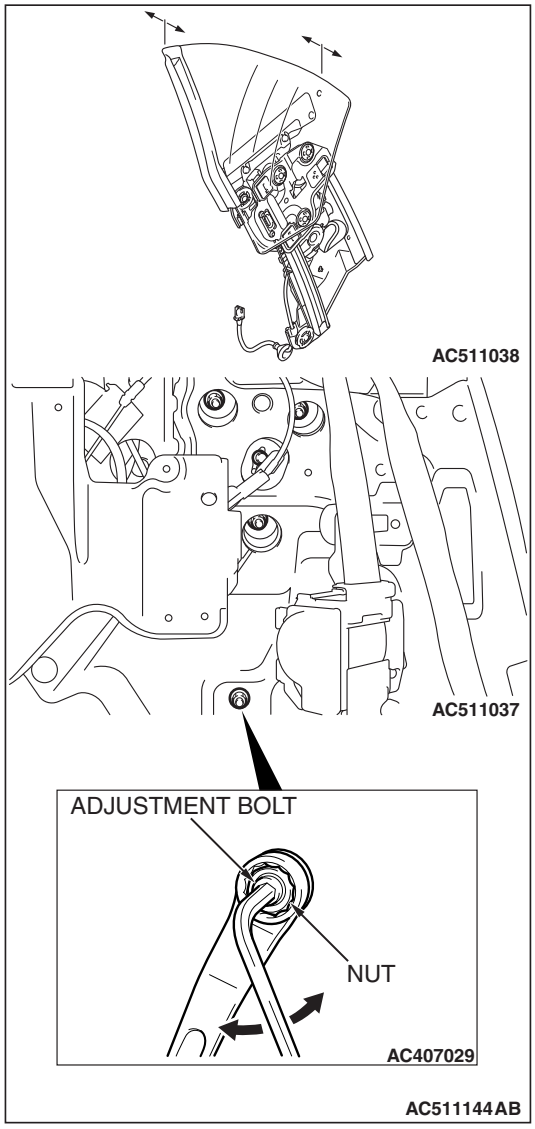
14.Adjust the position of the quarter window glass in the fore/aft direction and the vertical direction.
(1) Loosen the quarter window glass mounting nuts.



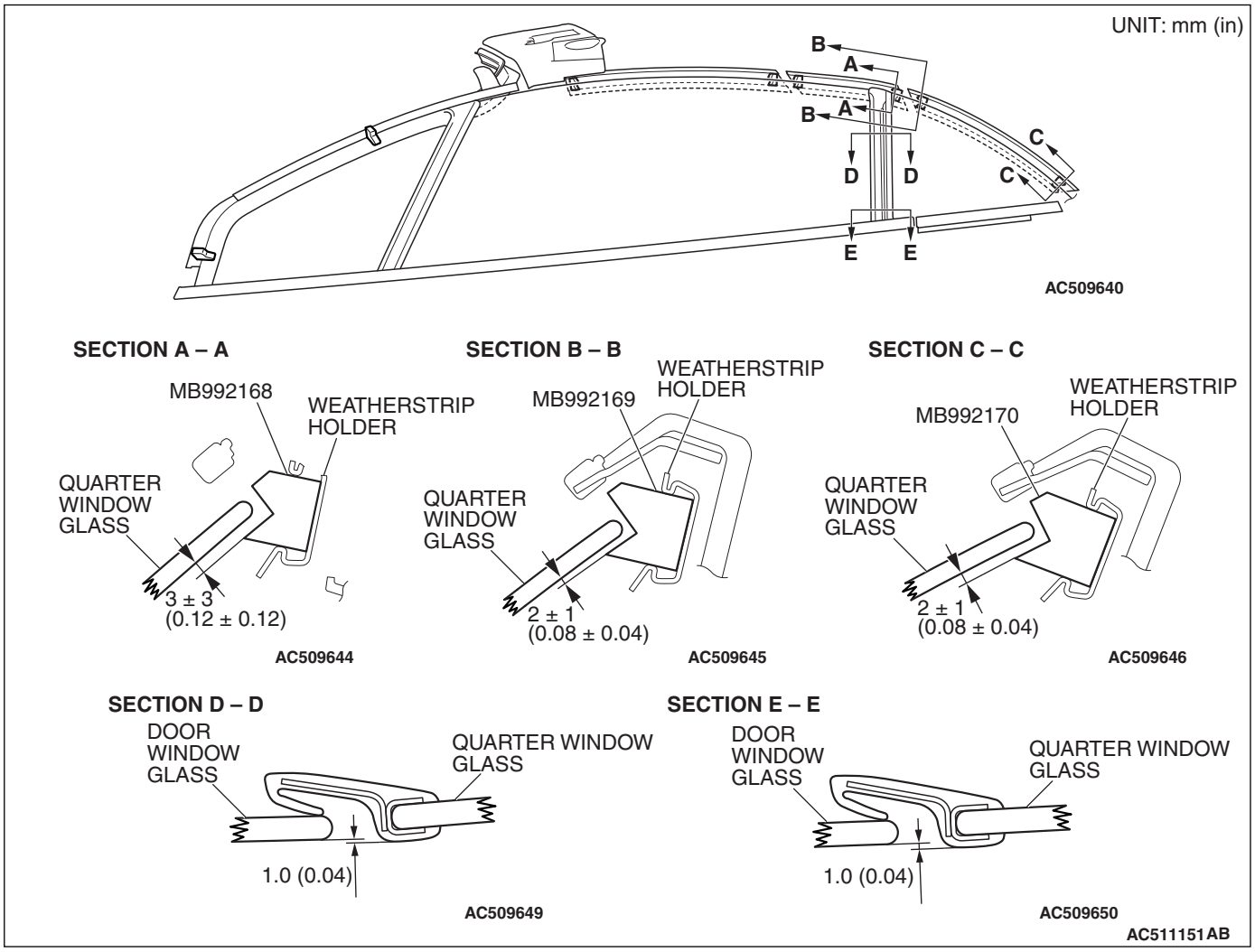


(2) Adjust the quarter window glass to the position shown by moving them in the fore/aft direction the vertical direction.
(3) Tighten the quarter window glass mounting nuts.





15.Adjust the tilt angle of the quarter window glass.
(1) Loosen the quarter window glass mounting nut.
(2) Turn the adjustment bolt. The tilting direction of the quarter window glass is altered by approximately 2 mm (0.08 inch) when turning the adjustment bolt one rotation.



(3) Adjust tilt angle of the quarter window glass as shown.

(4) Tighten the quarter window glass mounting nut.

16. Install special tools MB992050 and MB992164.
17. After adjustment, check that the following operations work normally.
    - Power window
    - Opening/closing of the doors
    - Short stroke mechanism
18. Install the quarter window plug (Refer to P.42-34).
19. Install the front pillar and front roof weatherstrip (Refer to P.42-270).
20. Install the front rail weatherstrip, center rail weatherstrip and No.5 bow weatherstrip (Refer to P.42-270).
21. Install the door trim (Refer to GROUP 52A, Door Trim P.52A-34).

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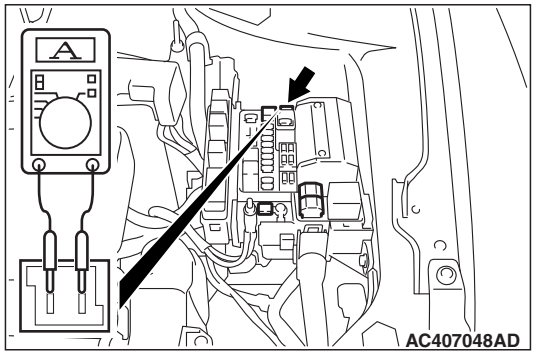
POWER WINDOW TIMER FUNCTION CHECK

M1429004300314

After the doors are closed and the ignition switch is turned to the "LOCK" (OFF) position, the power windows should work within 30 seconds. The timer expires if the front door is opened during that 30 seconds. If it does not, carry out the timer troubleshooting in GROUP 54B, Diagnosis P.54B-54.

POWER WINDOW OPERATING CURRENT CHECK

M1429001100429

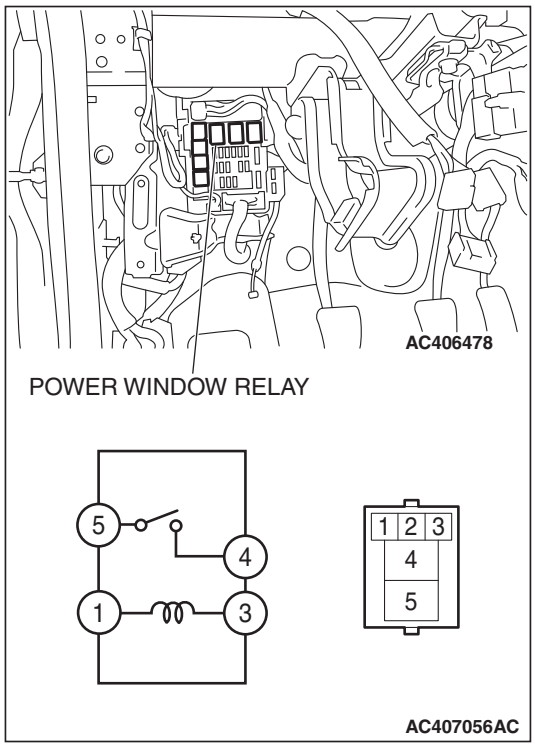


1. Remove the power window fuse and connect an ammeter as shown in the illustration.
2. When the power window switch is pressed in the “UP” position, a large amount of current flows from the time the window starts to close until it is fully closed, Measure the current during this time

   Standard value (A): 5 ± 1A [Power supply voltage 14.5 ± 0.5V, 25°C (77°F)]
3. If not within the standard value, check the moving parts of the door window glass in the door window module assembly (Refer to P.42-82).

POWER WINDOW RELAY CHECK

M1429001800343



Battery voltage	Tester connection	Specified condition
Not applied	4 – 5	Open circuit
• Connect terminal No. 3 and the negative battery terminal. • Connect terminal No. 1 and the positive battery terminal.	4 – 5	Less than 2 ohms

POWER WINDOW CHECK

M1429004400452

1. Operate the power window switch of each door to verify that the power windows operate properly. If they don't, then troubleshoot as described in GROUP 54B, Diagnosis P.54B-54.
2. Turn ON the power window lock switch of the power window main switch. Then operate the passenger's door power window sub-switch to ensure that they do not operate. If they do, replace the power window main switch (Refer to GROUP 52A, Door Trim P.52A-35).

SHORT STROKE MECHANISM FULLY CLOSED POSITION LEARNING PROCEDURE

M1429005500010

Close the door, and fully close the door window glass using the power window switch. After closing the door window glass fully, release the switch once. Then, press and hold the switch to fully close the door window glass again for 1 second.

CENTRAL DOOR LOCKING SYSTEM INSPECTION

M1427001100586

Check the following. Troubleshoot if operations malfunction (Refer to GROUP 54B, Diagnosis P.54B-54).

- All doors and liftgate<ECLIPSE> can be locked using the door lock switch built into the front power window (main or sub) switch.

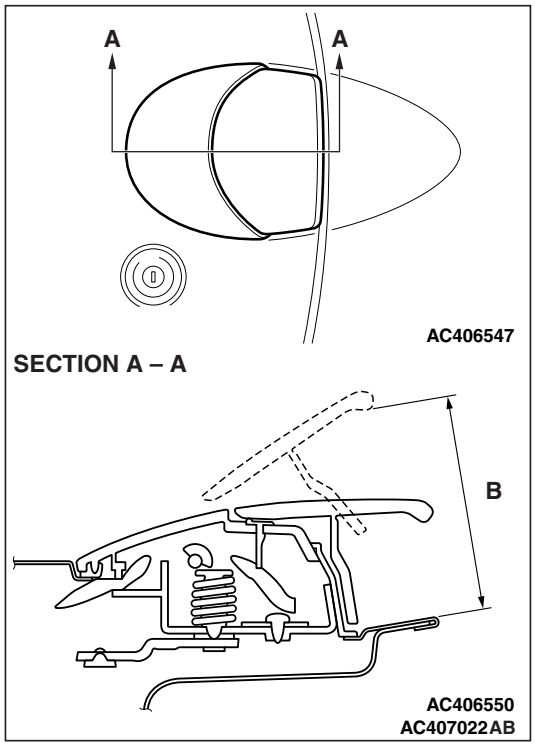
FORGOTTEN KEY PREVENTION FUNCTION CHECK

M1427004700015

Check that the doors cannot be locked even if they are closed while the key is inserted to the ignition switch. Carry out troubleshooting if the doors can be locked. Refer to GROUP 54B, Diagnosis P.54B-54.

DOOR OUTSIDE HANDLE PLAY CHECK

M1423001600459



1. Check that the door outside handle play is within the standard value range.

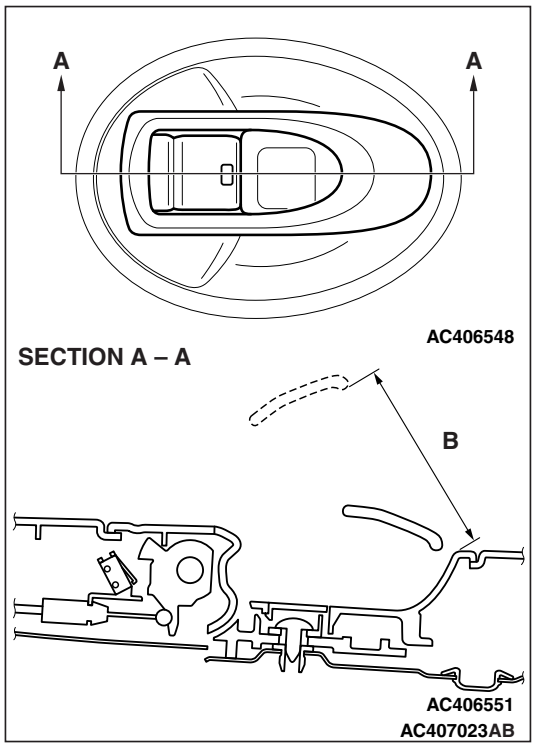
   Standard value (B): 63.5 mm (2.5 inches)

2. If the door outside handle play is not within the standard value range, check the door outside handle or the door latch assembly. Replace if necessary.

DOOR INSIDE HANDLE PLAY CHECK

M1423009400039

DOOR INSIDE HANDLE KNOB PLAY CHECK



1. Check that the door inside handle play is within the standard value range.

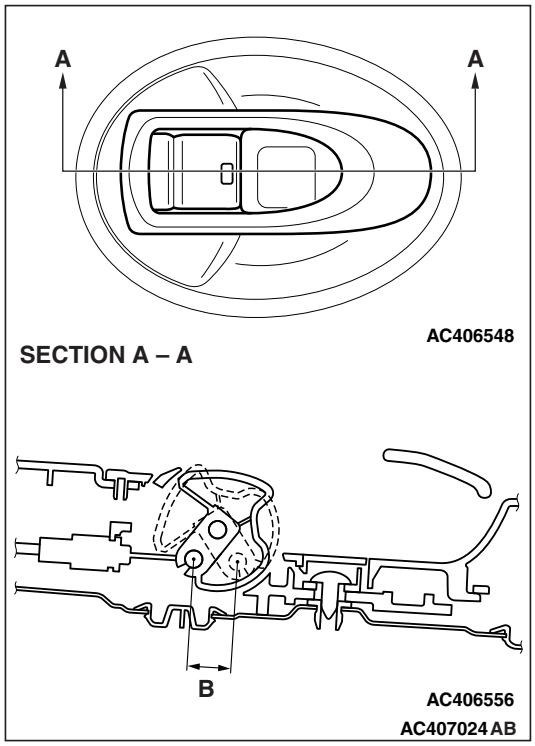
   Standard value (B): 73.6 mm (2.90 inches)

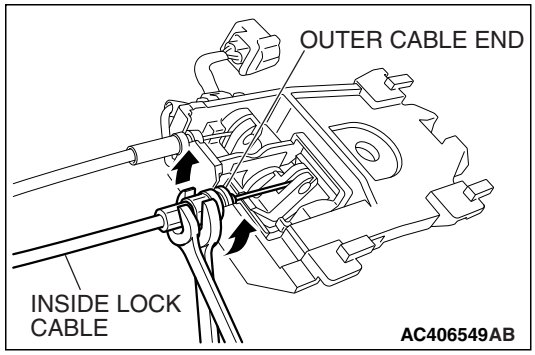
2. If the door inside handle play is not within the standard value range, check the door inside handle or the inside handle cable. Replace if necessary.

DOOR INSIDE HANDLE LOCK KNOB STROKE CHECK

1. Remove the door trim assembly (Refer to GROUP 52A, Door Trim P.52A-34).
2. Check that the door inside handle lock knob stroke is within the standard value.

   Standard value (B): 14.9 ± 0.5 mm (0.59 ± 0.020 inch)





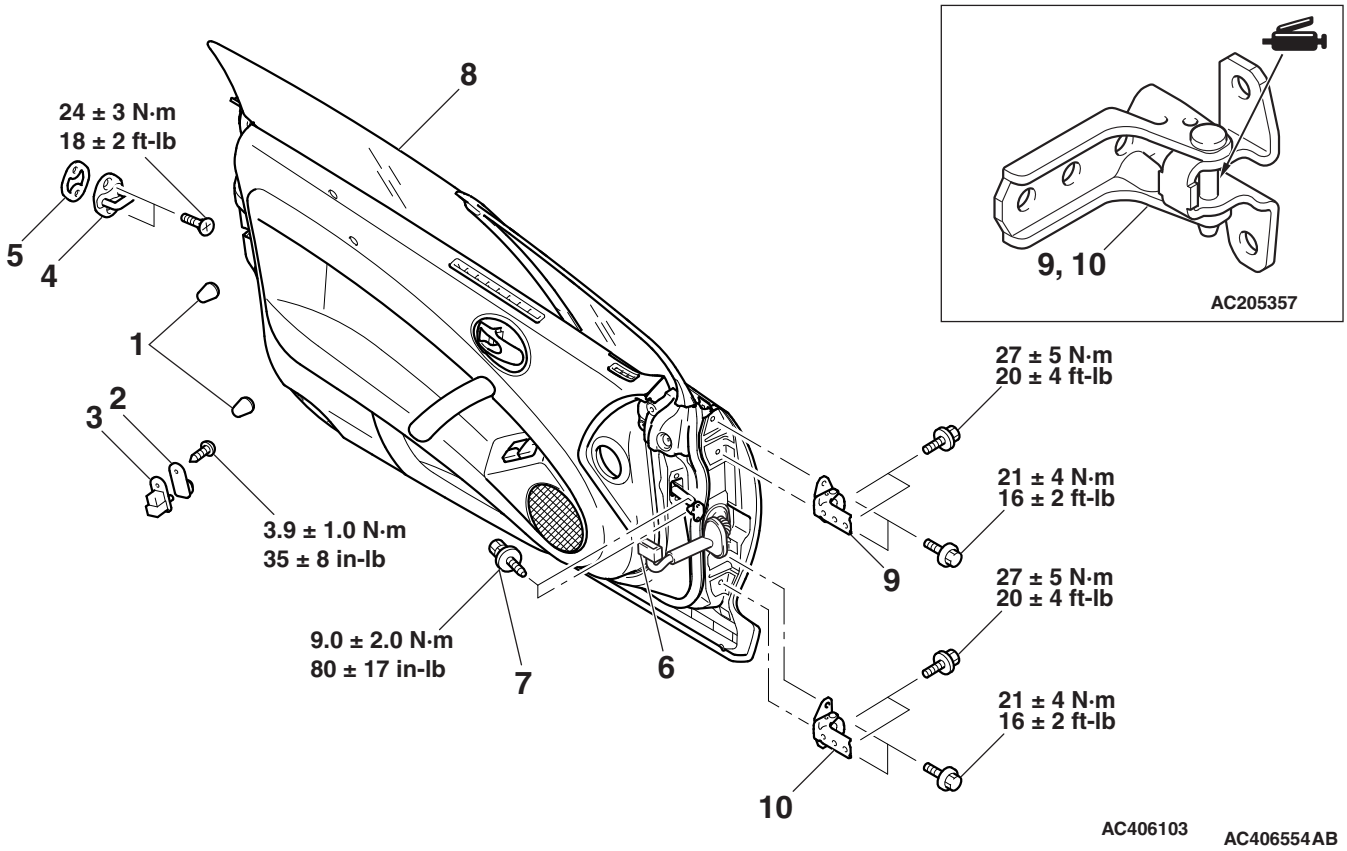
3. If not within the standard value, adjust the inside handle lock knob stroke with the outer cable end connecting the inside handle lock knob and inside lock cable.

DOOR ASSEMBLY

REMOVAL AND INSTALLATION

M1423002200454

Post-installation Operation
- Front Door Fit Adjustment (Refer to P.42-58).



REMOVAL
1. DAMPER

DOOR SWITCH REMOVAL STEPS
2. DOOR SWITCH COVER
3. DOOR SWITCH

STRIKER REMOVAL STEPS
>>A<< 4. STRIKER
5. STRIKER SHIM

DOOR ASSEMBLY REMOVAL STEPS
- COWL SIDE TRIM (REFER TO GROUP 52A, TRIMS P.52A-30.)

6. HARNESS CONNECTOR
7. DOOR CHECK MOUNTING BOLT
8. DOOR ASSEMBLY
9. DOOR UPPER HINGE
10. DOOR LOWER HINGE

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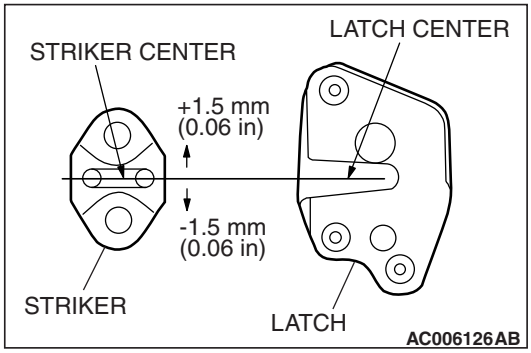
INSTALLATION SERVICE POINT

>>A<< STRIKER INSTALLATION

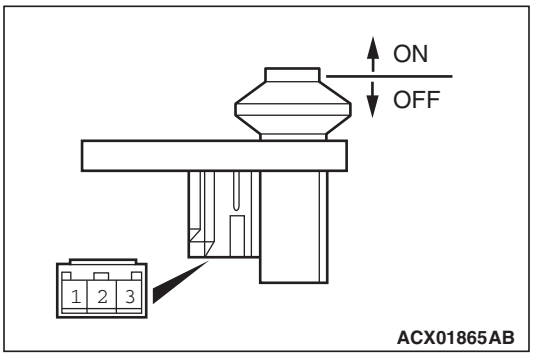


Align the center of the striker and latch within ± 1.5 mm (0.06 inch), and install.

INSPECTION

M1423006000485

DOOR SWITCH CHECK



Check continuity between the switch terminals and body ground.

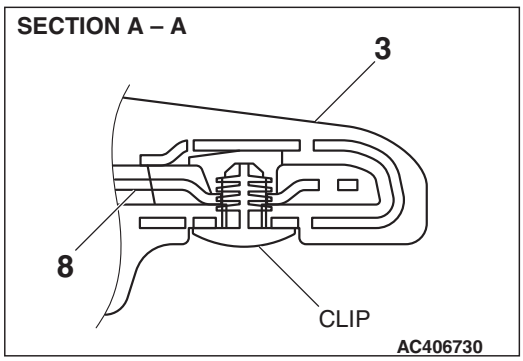
Switch position	Tester connection	Specified condition
Released (ON)	2 – body ground	Less than 2 ohms
Depressed (OFF)	2 – body ground	Open circuit

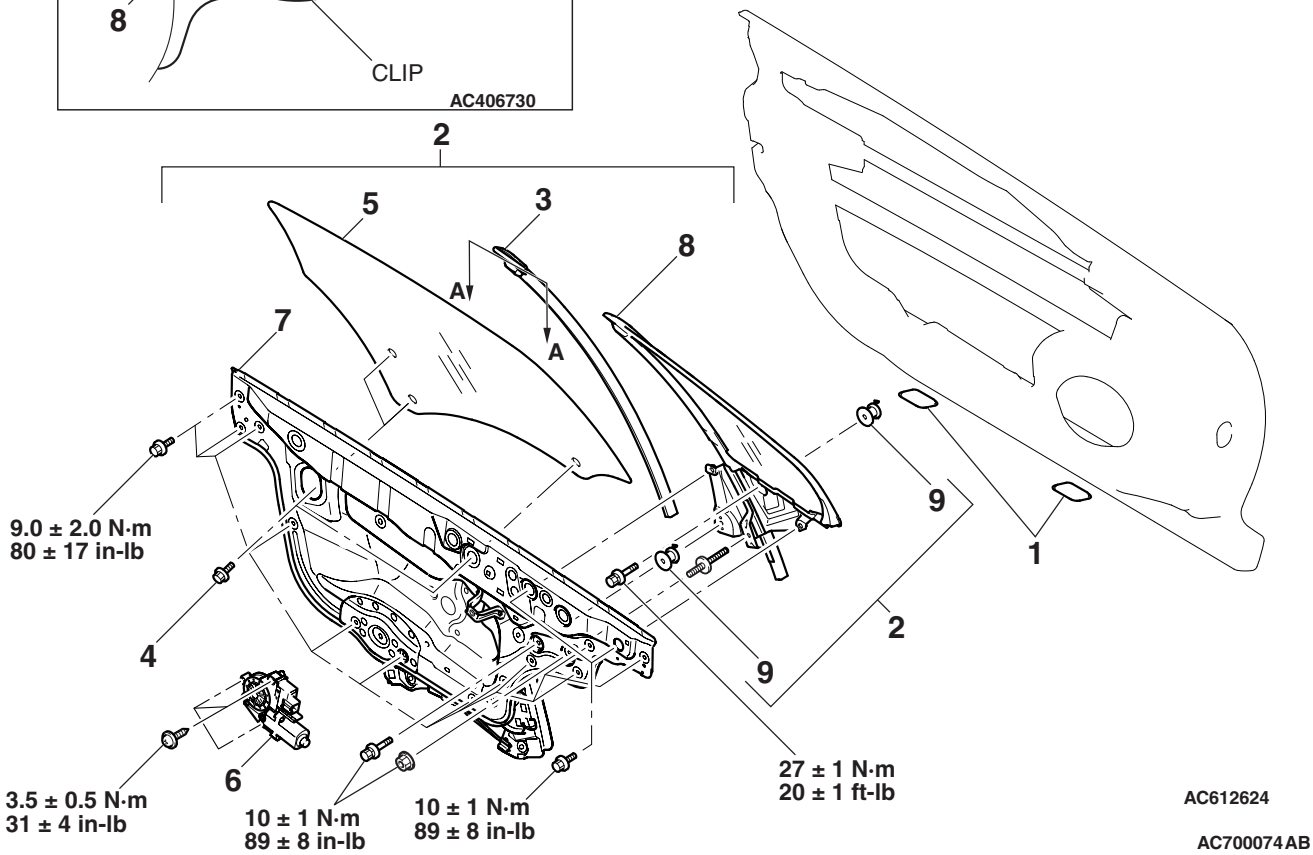
DOOR GLASS AND REGULATOR

REMOVAL AND INSTALLATION

M1429001300832

Pre-removal Operation	Post-installation Operation
• Door Trim Assembly Removal (Refer to GROUP 52A Door Trim P.52A-34).	• Door Window Glass Adjustment (Refer to P.42-60 <ECLIPSE>, P.42-66 <ECLIPSE SPYDER>). • Door Trim Assembly Installation (Refer to GROUP 52A, Door Trim P.52A-34). • Short Stroke Mechanism Fully Closed Position Learning Procedure (Refer to P.42-77).





PLUG REMOVAL
1. PLUG

DOOR WINDOW MODULE ASSEMBLY REMOVAL

>>B<< 2. DOOR WINDOW MODULE ASSEMBLY

DOOR WINDOW GLASS REMOVAL STEPS

3. RUNCHANNEL

<<A>> >>A<< 4. DOOR WINDOW GLASS MOUNTING BOLT

5. DOOR WINDOW GLASS

POWER WINDOW MOTOR REMOVAL

6. POWER WINDOW MOTOR

DOOR WINDOW MODULE REMOVAL STEPS

3. RUNCHANNEL

<<A>> >>A<< 4. DOOR WINDOW GLASS MOUNTING BOLT

5. DOOR WINDOW GLASS
6. POWER WINDOW MOTOR
7. DOOR WINDOW MODULE
8. DELTA WINDOW GLASS ASSEMBLY
9. ADJUSTABLE NUT

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REMOVAL SERVICE POINT

<<A>> DOOR WINDOW GLASS MOUNTING BOLT REMOVAL

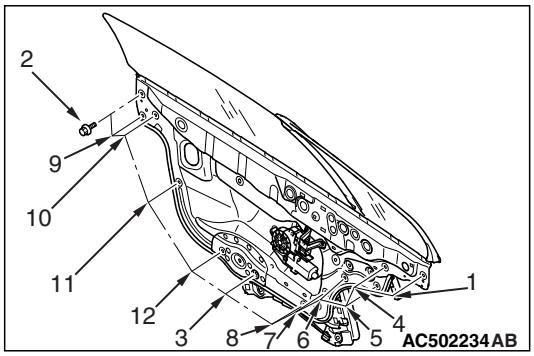
⚠ CAUTION
When loosening the door window glass mounting bolts, use a magnetic wrench to prevent bolts from dropping into the door window module assembly cavity.

INSTALLATION SERVICE POINTS

>>A<< DOOR WINDOW GLASS MOUNTING BOLT INSTALLATION

⚠ CAUTION
When tightening the door window glass mounting bolts, use a magnetic wrench to prevent bolts from dropping into the door window module assembly cavity.

>>B<< DOOR WINDOW MODULE ASSEMBLY INSTALLATION



Install the door window module assembly in the order shown.

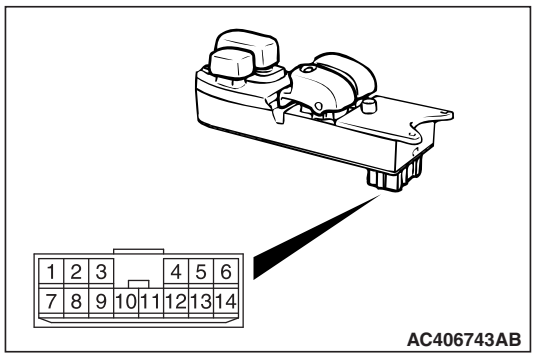
NOTE: Check the installation position of the door window glass and the delta window glass (Refer to P.42-60 <ECLIPSE>, P.42-66 <ECLIPSE SPYDER>).

INSPECTION

M1429001400486

POWER WINDOW SWITCH CONTINUITY CHECK

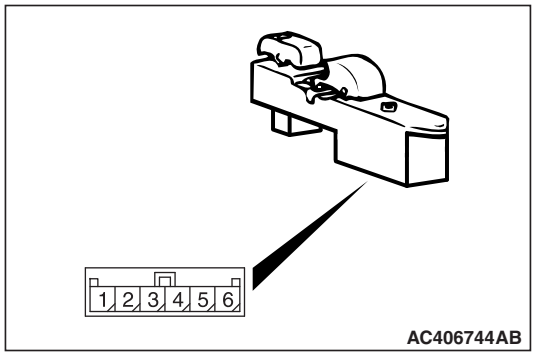
Remove the power window switch (Refer to GROUP 52A, Door trim P.52A-35).



MAIN SWITCH

Switch position		Tester connection	Specified condition
LH	UP	7 – 12	Less than 2 ohms
	OFF	7 – 12	Open circuit
	DOWN	7 – 12	Less than 2 ohms
	AUTO DOWN	7 – 12	Less than 2 ohms
RH	UP	9* – 11	Less than 2 ohms
	OFF	9* – 10, 9* – 11	Open circuit
	DOWN	9* – 10	Less than 2 ohms

*NOTE: *: Set the power window lock switch to UNLOCK position.*



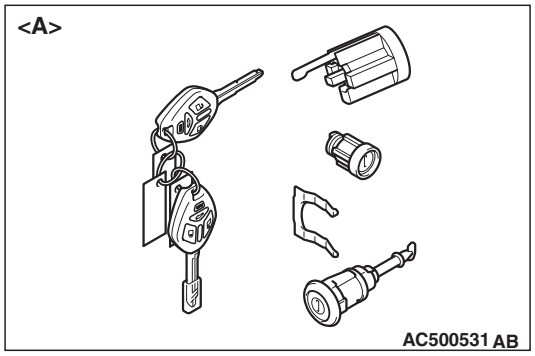
SUB SWITCH

Switch position	Tester connection	Specified condition
UP	3 – 5	Less than 2 ohms
OFF	3 – 5, 4 – 5	Open circuit
DOWN	4 – 5,	Less than 2 ohms

DOOR HANDLE AND LATCH

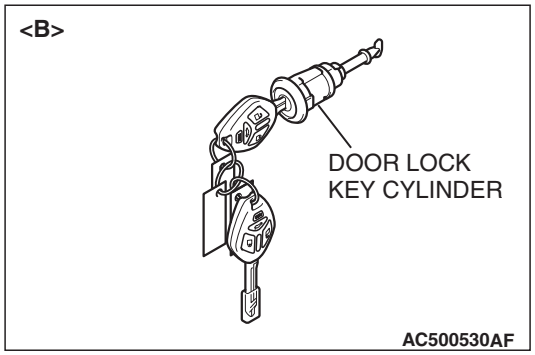
REMOVAL AND INSTALLATION

M1423004601116



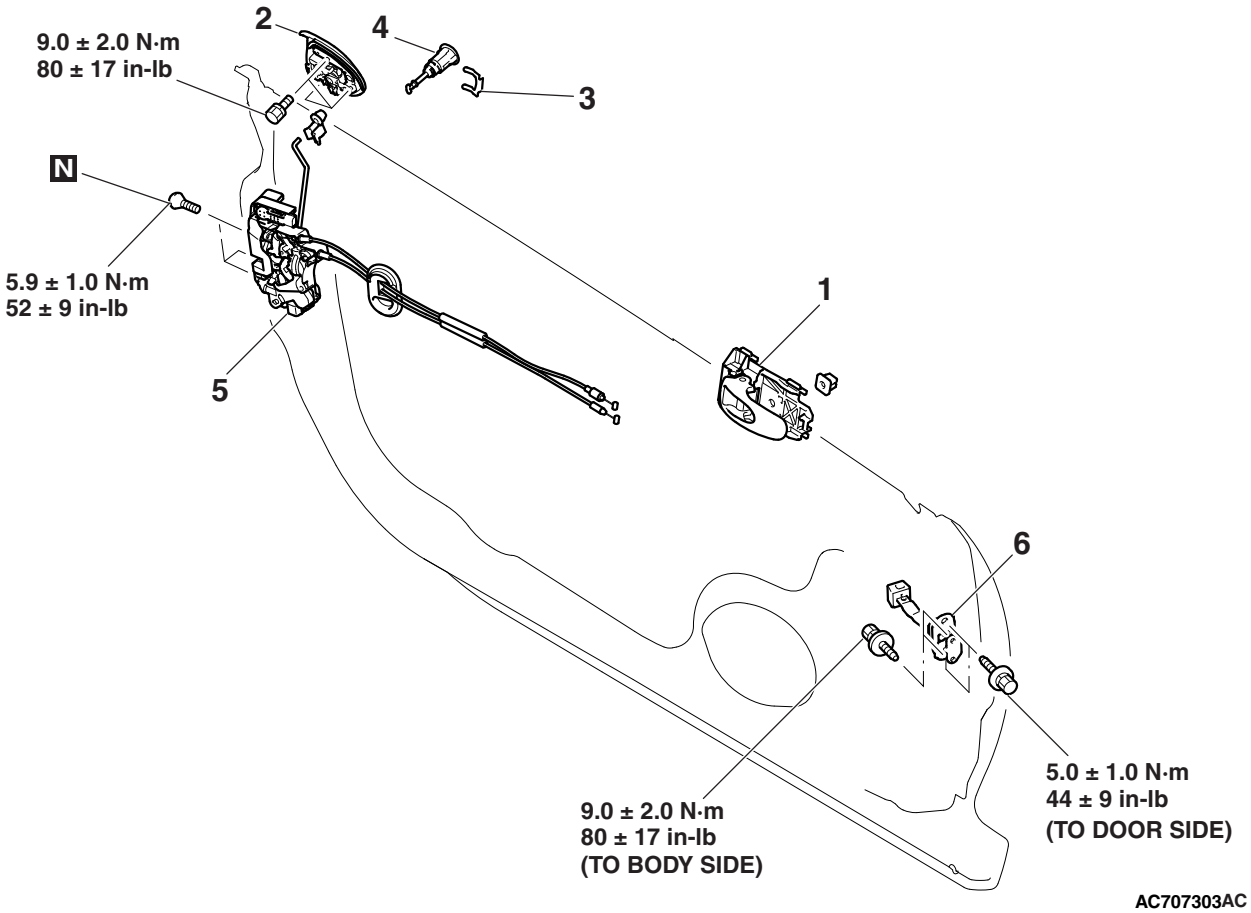
⚠ CAUTION

- **When the door lock key cylinder is replaced by key set of illustration <A>, register the encrypted code with the bar code on the ignition key in the key set.Refer to GROUP 54A, Encrypted Code Registration Criteria Table P.54A-19.**

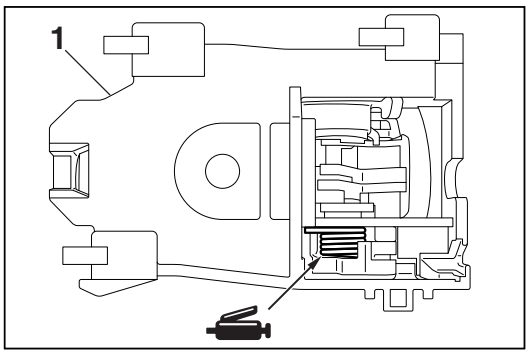


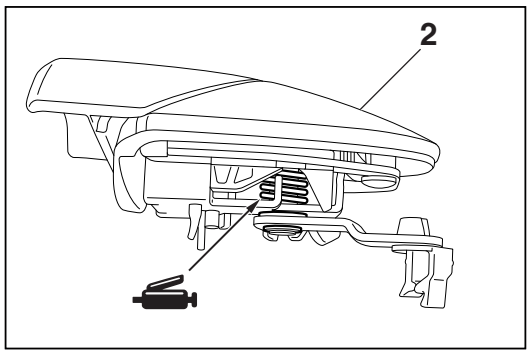
- **When replacing by the door lock key cylinder of illustration <B>, do not register the encrypted code with the bar code on the ignition key supplied simultaneously.**

Pre-removal Operation	Post-installation Operation
• Door Trim Assembly Removal (Refer to GROUP 52A Door Trim P.52A-34).	• Door Inside Handle Play Check (Refer to P.42-78). • Door Outside Handle Play Check (Refer to P.42-78). • Door Trim Assembly Installation (Refer to GROUP 52A, Door Trim P.52A-34).



AC707303AC





AC700305AB

DOOR INSIDE HANDLE REMOVAL

1. DOOR INSIDE HANDLE

DOOR OUTSIDE HANDLE REMOVAL STEPS

- DOOR WINDOW MODULE ASSEMBLY (REFER TO P.42-82.)

2. DOOR OUTSIDE HANDLE

DOOR LOCK KEY CYLINDER AND DOOR LATCH ASSEMBLY REMOVAL STEPS

- DOOR WINDOW MODULE ASSEMBLY (REFER TO P.42-82.)

3. RETAINER <DRIVER'S SIDE ONLY>
4. DOOR LOCK KEY CYLINDER <DRIVER'S SIDE ONLY>

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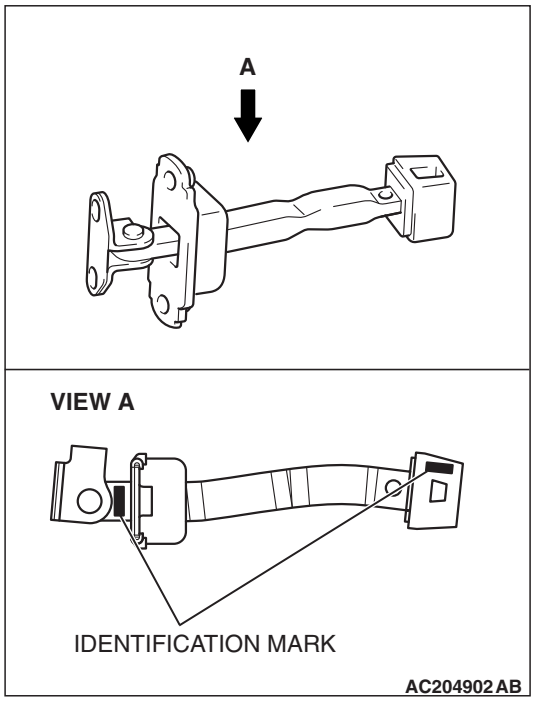
DOOR LOCK KEY CYLINDER AND DOOR LATCH ASSEMBLY REMOVAL STEPS (Continued)

5. DOOR LATCH ASSEMBLY

DOOR CHECK REMOVAL STEPS

- FRONT DOOR SPEAKER BRACKET (REFER TO GROUP 54A, SPEAKER P.54A-261.)

>>**A**<< 6. DOOR CHECK



Required Special Tool:

- MB991223: Harness Set

INSTALLATION SERVICE POINT

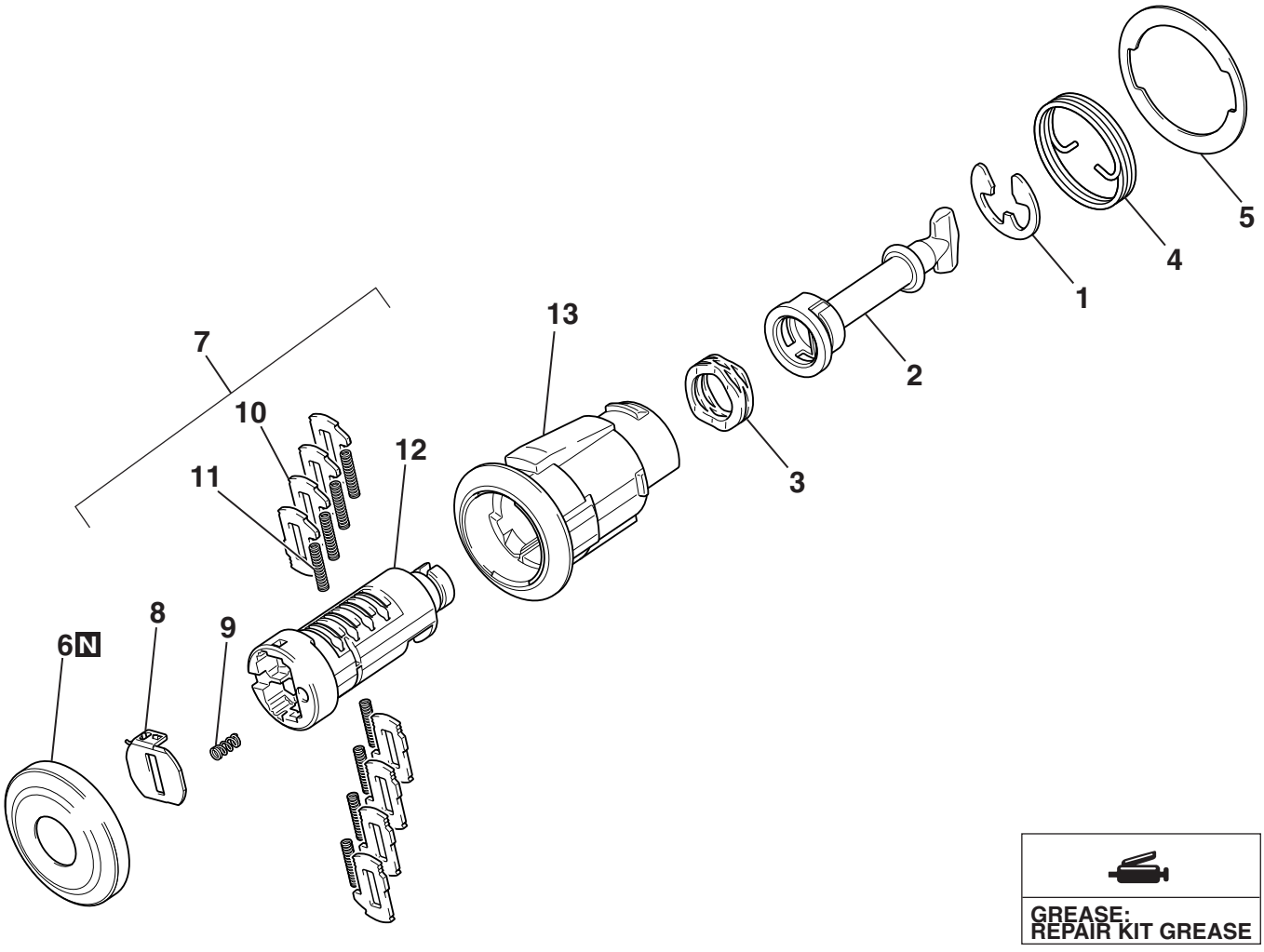
>>A<< DOOR CHECK INSTALLATION

Install the door check so that the identification mark faces upwards.

Item	Identification mark
Left door	P2FL
Right door	P2FR

DOOR LOCK CYLINDER DISASSEMBLY AND ASSEMBLY

M1423013200038



DISASSEMBLE STEPS

1. RETAINER
2. SHAFT
3. SHAFT SPRING
4. RETURN SPRING
5. GASKET

>>**C**<< 6. CAP

>>**B**<< 7. CYLINDER SUB-ASSEMBLY

DISASSEMBLE STEPS

8. SHUTTER ASSEMBLY
9. CYLINDER SPRING

>>**A**<< 10. TUMBLER

11. TUMBLER SPRING
12. CYLINDER PLUG
13. CASE SUB-ASSEMBLY

ASSEMBLY SERVICE POINTS

>>A<< TUMBLER ASSEMBLY

<How to select the tumbler when the tumbler layout information can be obtained by the key code>

1. Note the location and orientation of the lever and rod clip on the lock removed from the vehicle.
2. From the key code select the proper tumbler combinations required to make a functional lock, reference key biting and tumbler placement chart (refer to table 1).

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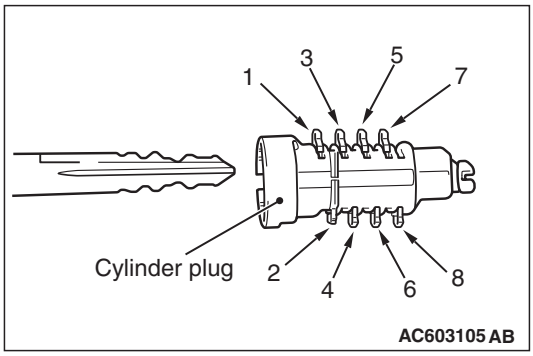
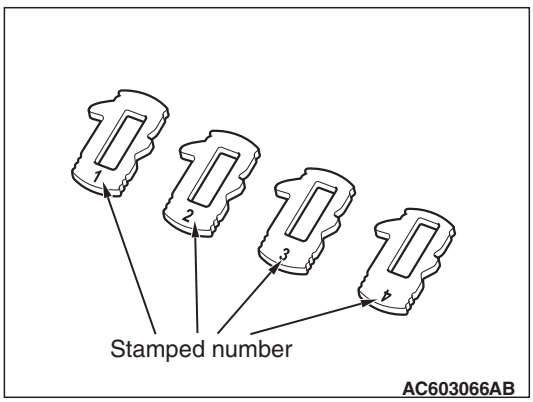


3. Tumblers load from both sides of the cylinder.
4. Locate the tumbler chamber that is closest to the head of the cylinder plug. That is tumbler ward number 1 and the first number of the key code. Tumbler ward number 3, 5 and 7 are also located on that side of the cylinder plug (odd on one side even on other).
5. Place one tumbler spring in each of the four spring pockets.
6. Using the appropriate tumbler number (tumbler number is stamped on tumbler and matches cut depth) place a tumbler in each chamber and depress tumbler tilting slightly towards the spring. The tumbler should drop freely in place and be retained. After all tumblers are inserted into the cylinder plug insert the key to make sure the tumblers drop flush with the cylinder plug body. If one does not remove and replace with thew correct tumbler that matches the cut of the key.
7. Turn the cylinder plug over and repeat the same process for chambers 2, 4, 6, and 8. Insert the key and make sure all the tumblers drop flush with the diameter of the cylinder.

Table 1: Key code to tumbler placement

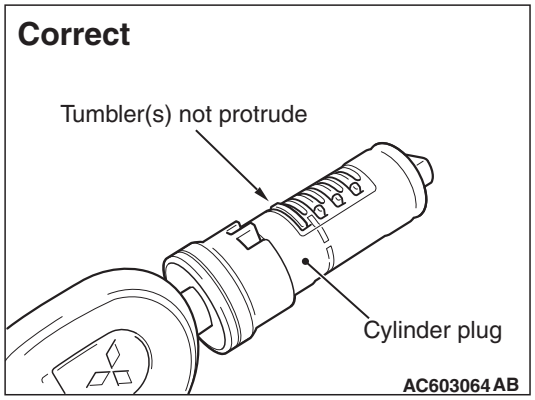
	Head of key/Cylinder							Tip of key	
Notch location	1	2	3	4	5	6	7	8	
All Ignitions	X	X	X	X	X	X	X	X	All spaces
Door	X	X	X	X	X	X	X	X	All spaces
Deck	X	X	X	X	X	X	X	X	All spaces
Trunk Release				X	X	X	X	X	5 spaces
I/P					X	X	X	X	Last 4 spaces

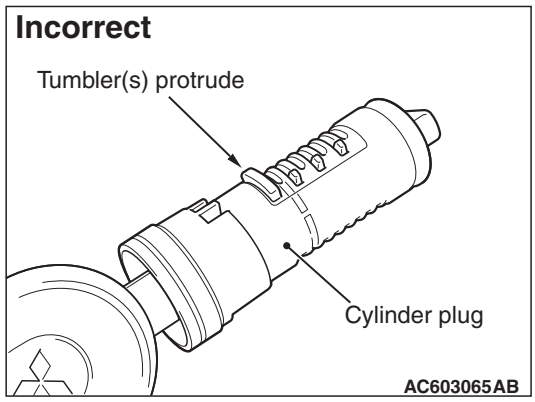
NOTE: The mark X in the table indicates the stamped number (from 1 to 4) on the tumbler.



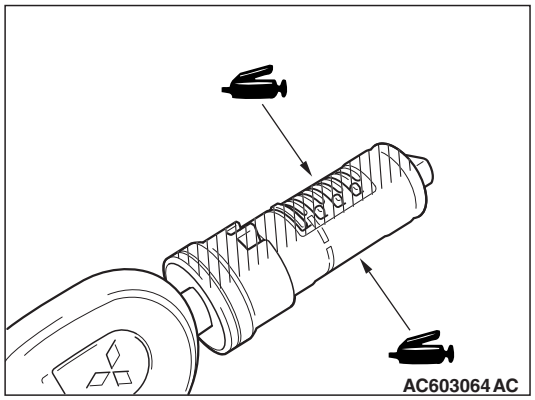
<How to select the tumbler when the tumbler layout information cannot be obtained by the key code>

1. The repair kit contains 20 tumblers (five tumblers for each No. 1 to 4.)
2. Insert the tumbler spring into the cylinder plug spring pocket.
3. Set the tumbler No. 1 onto the cylinder plug tumbler chamber, and insert the key. Then, check that the tumbler is not protruding from the cylinder plug.





4. When the tumbler is not protruding, the correct tumbler is selected. Otherwise, the wrong tumbler is selected.If the wrong tumbler has been selected, remove the tumbler No. 1, and set the tumbler in the order from No. 2 to 4. Then, check the key insertion state and select the tumbler which does not protrude from the cylinder plug.
5. Repeat the steps previously mentioned, and set the correct tumbler into all tumbler chambers. Insert the key at last, and check that all the tumblers are clearly arranged, not protruding from the cylinder plug.

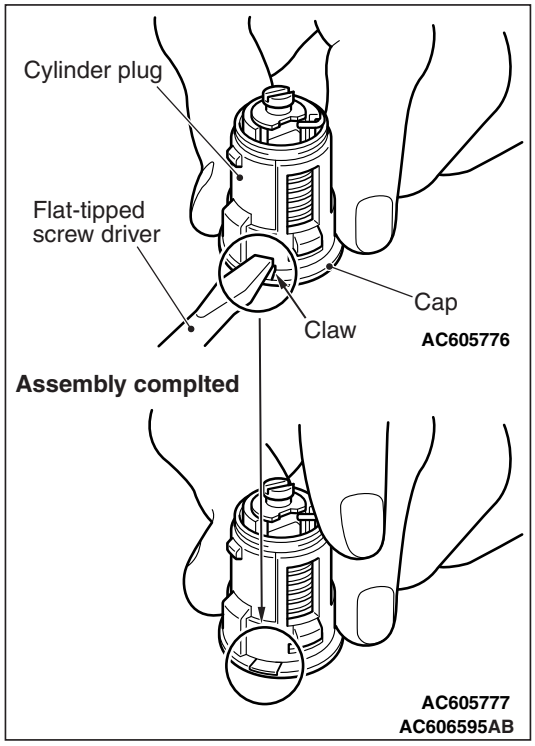


>>B<< CYLINDER SUB-ASSEMBLY ASSEMBLY

Apply the supplied grease to body surfaces of the cylinder opposite of the tumblers, in the keyway of the cylinder plug head and actuator pocket, and the inside diameter of the case.

>>C<< CAP ASSEMBLY

1. Assemble the cap onto the cylinder plug.
2. Bend the four claws on the cap using the flat-tipped screw driver.



INSPECTION

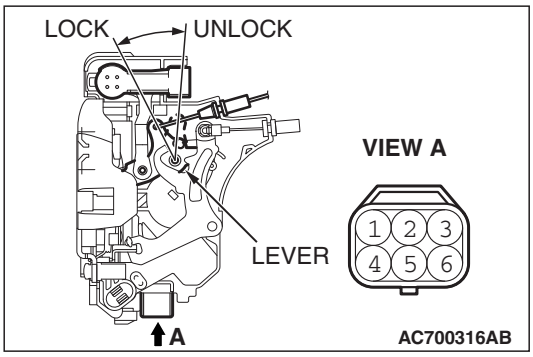
M1423004701146

FRONT DOOR LATCH CHECK

The illustration shows when the door lock actuator is viewed from inside the door.

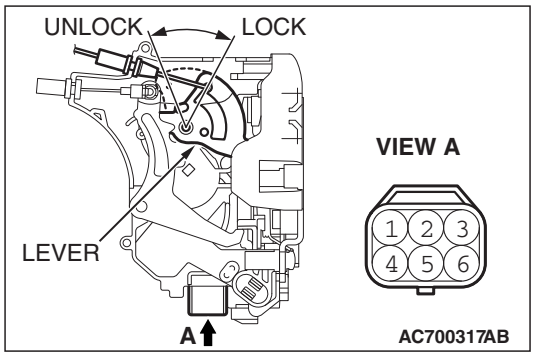
DOOR LOCK ACTUATOR CHECK <LEFT SIDE>

Lever position	Battery connection	Lever operation
At the "LOCK" position	• Connect terminal No. 4 and the negative battery terminal. • Connect terminal No. 6 and the positive battery terminal.	The lever moves from the "LOCK" position to the "UNLOCK" position.
At the "UNLOCK" position	• Connect terminal No. 6 and the negative battery terminal. • Connect terminal No. 4 and the positive battery terminal.	The lever moves from the "UNLOCK" position to the "LOCK" position.



DOOR LOCK ACTUATOR SWITCH CHECK <LEFT SIDE>

Lever position	Tester connection	Specified condition
At the "LOCK" position	1 – 3	Open circuit
At the "UNLOCK" position	1 – 3	Less than 2 ohms



DOOR LOCK ACTUATOR CHECK <RIGHT SIDE>

Lever position	Battery connection	Lever operation
At the "LOCK" position	• Connect terminal No. 4 and the negative battery terminal. • Connect terminal No. 6 and the positive battery terminal.	The lever moves from the "LOCK" position to the "UNLOCK" position.
At the "UNLOCK" position	• Connect terminal No. 6 and the negative battery terminal. • Connect terminal No. 4 and the positive battery terminal.	The lever moves from the "UNLOCK" position to the "LOCK" position.

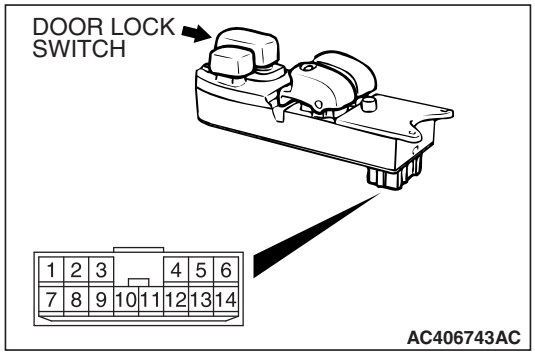
DOOR LOCK ACTUATOR SWITCH CHECK <RIGHT SIDE>

Lever position	Tester connection	Specified condition
At the "LOCK" position	1 – 3	Open circuit
At the "UNLOCK" position	1 – 3	Less than 2 ohms

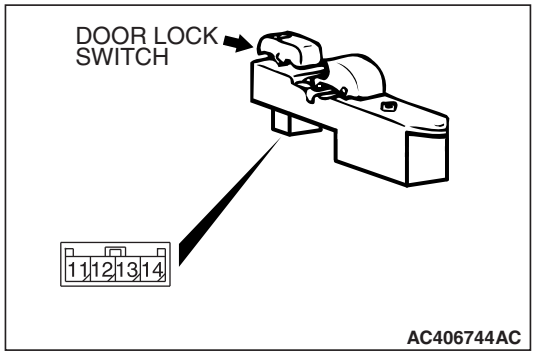
CENTRAL DOOR LOCK SWITCH CONTINUITY CHECK

Remove the power window switch (Refer to GROUP 52A, Door Trim P.52A-35).

<DRIVER'S SIDE>



Switch position	Tester connection	Specified condition
LOCK	12 – 13	Less than 2 ohms
OFF	12 – 13, 12 – 14	Open circuit
UNLOCK	12 – 14	Less than 2 ohms

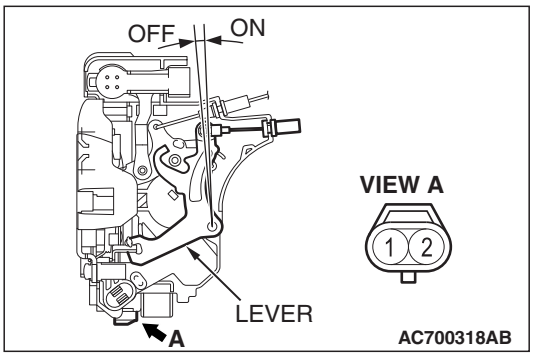


<PASSENGER'S SIDE>

Switch position	Tester connection	Specified condition
LOCK	13 – 14	Less than 2 ohms
OFF	13 – 14, 12 – 14	Open circuit
UNLOCK	12 – 14	Less than 2 ohms

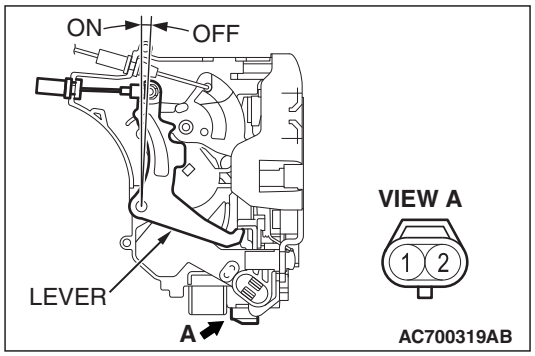
SHORT STROKE SWITCH CONTINUITY CHECK

The illustration shows when the short stroke switch is viewed from inside the door.



<DRIVER'S SIDE>

Switch position	Tester connection	Specified condition
ON	1 – 2	Less than 2 ohms
OFF	1 – 2	Open circuit



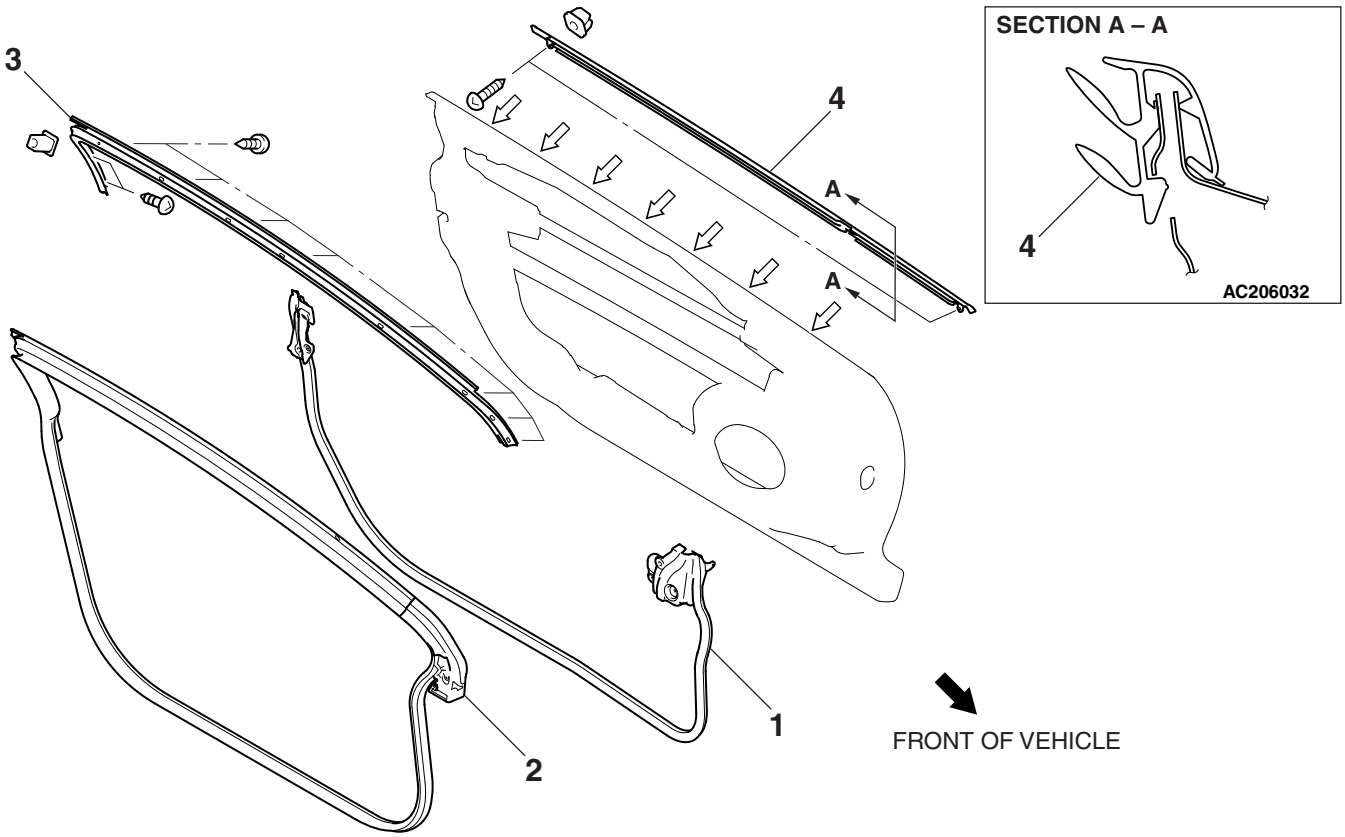
<PASSENGER'S SIDE>

Switch position	Tester connection	Specified condition
ON	1 – 2	Less than 2 ohms
OFF	1 – 2	Open circuit

WINDOW GLASS RUNCHANNEL AND DOOR OPENING WEATHERSTRIP

REMOVAL AND INSTALLATION

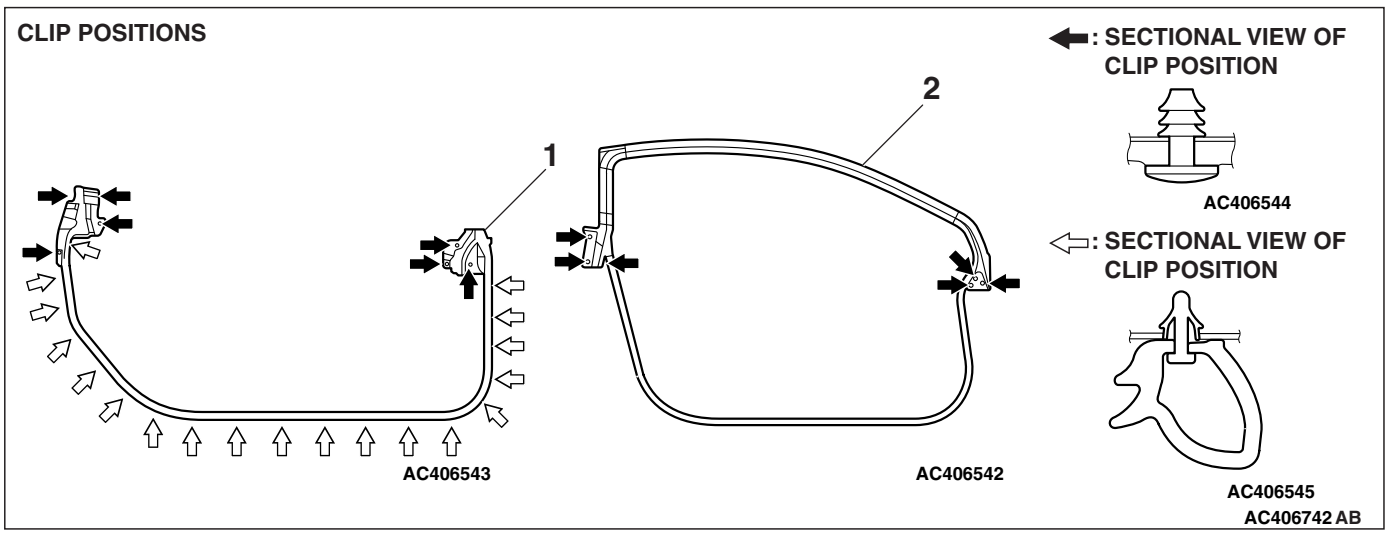
M1423003100676



NOTE
⇦ : THE CONVEX POSITIONS OF THE DOOR

AC406101

AC406559AB



DOOR OPENING WEATHERSTRIP OUTER REMOVAL STEPS

- DOOR TRIM ASSEMBLY (REFER TO GROUP 52A, DOOR TRIM P.52A-34.)

>>C<< 1. DOOR OPENING WEATHERSTRIP OUTER

DOOR DRIP WEATHERSTRIP AND DOOR WINDOW WEATHERSTRIP HOLDER REMOVAL STEPS

- FRONT SCUFF PLATE (REFER TO GROUP 52A, TRIMS P.52A-30.)

>>B<< 2. DOOR DRIP WEATHERSTRIP
>>A<< 3. DOOR WINDOW WEATHERSTRIP HOLDER

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DOOR BELTLINE MOLDING REMOVAL STEPS

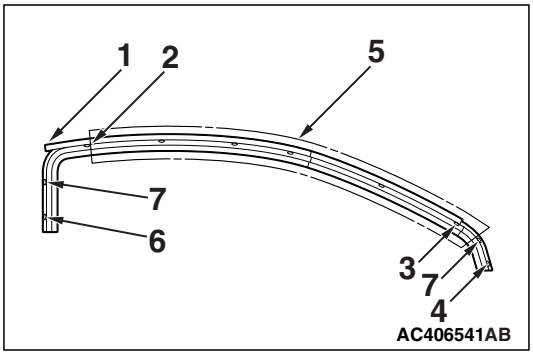
- DOOR TRIM ASSEMBLY (REFER TO GROUP 52A, DOOR TRIM P.52A-34).

4. DOOR BELTLINE MOLDING

INSTALLATION SERVICE POINTS

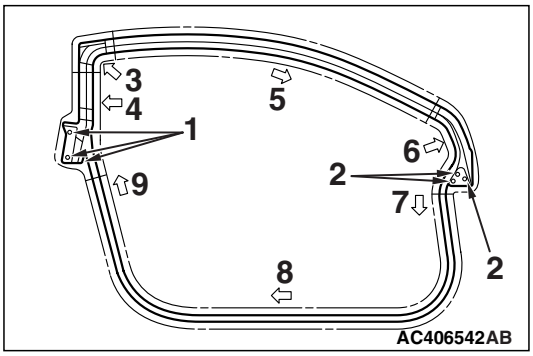
>>A<< DOOR WINDOW WEATHERSTRIP HOLDER INSTALLATION

Install the door window weatherstrip holder in the sequence shown.



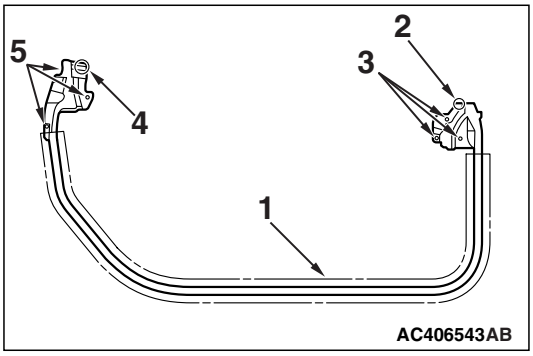
>>B<< DOOR DRIP WEATHERSTRIP INSTALLATION

Install the door drip weatherstrip in the sequence shown. Apply a force in the arrowed direction shown and install the door drip weatherstrip.



>>C<< DOOR OPENING WEATHERSTRIP OUTER INSTALLATION

Install the door opening weatherstrip outer in the sequence shown.



LIFTGATE <ECLIPSE>

LIFTGATE DIAGNOSIS

INTRODUCTION TO LIFTGATE DIAGNOSIS

M1424002500135

Difficult locking/unlocking, uneven clearance, and wind noise from the liftgate may be due to improper adjustment of the liftgate.

LIFTGATE DIAGNOSTIC TROUBLESHOOTING STRATEGY

M1424002600143

Use these steps to plan your diagnostic strategy. If you follow them carefully, you will be sure that you have exhausted most of the possible ways to find a liftgate fault.

1. Gather information from the customer.
2. Verify that the condition described by the customer exists.
3. Find the malfunction by following the Symptom Chart.
4. Verify malfunction is eliminated.

SYMPTOM CHART

M1424002700151

Symptom	Inspection procedure	Reference page
Difficult locking and unlocking	1	P.42-95
Uneven body clearance	2	P.42-95
Uneven height	3	P.42-96

SYMPTOM PROCEDURES

INSPECTION PROCEDURE 1: Difficult Locking and Unlocking

DIAGNOSIS

STEP 1. Check the release cable routing.

Q: Is the release cable routed correctly?
YES : Go to Step 3.
NO : Re-route the release cable. Then go to Step 2.

STEP 2. Check the engagement of the liftgate latch and liftgate striker.

Q: Are the liftgate latch and liftgate striker engaged correctly?
YES : Then go to Step 3.
NO : Align the liftgate latch and liftgate striker (Refer to P.42-97).

STEP 3. Retest the system.

Q: Does the liftgate lock operate easily?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 2: Uneven Body Clearance

DIAGNOSIS

STEP 1. Check the clearance around the liftgate.

Q: Is the liftgate installed correctly?
YES : Go to Step 2.
NO : Adjust clearance around liftgate (Refer to P.42-96).

STEP 2. Retest the system.

Q: Is the clearance with the body even?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 3: Uneven Height

DIAGNOSIS

STEP 1. Check the liftgate damper height.

Q: Is the liftgate damper height proper?
YES : Go to Step 2.
NO : Adjust the liftgate damper (Refer to P.42-97). Then go to Step2.

STEP 2. Retest the system.

Q: Are the liftgate and body height even?
YES : The procedure is complete.
NO : Return to Step 1.

SPECIAL TOOLS

M1424000600330

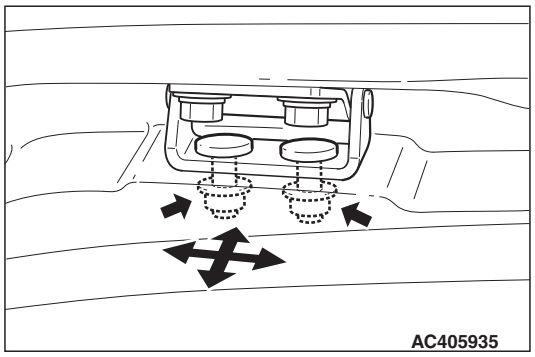
Tool	Tool number and name	Supersession	Application
a b c d Do not use MB991223	MB991223 Harness set a. MB991219 Test harness b. MB991220 LED harness c. MB991221 LED harness adapter d. MB991222 Probe	General service tools	Measurement of terminal voltage and resistance a. Connector pin contact pressure inspection b. Power circuit inspection c. Power circuit inspection d. Commercial tester connection
MB992006	MB992006 Extra fine probe	General service tool	Making voltage and resistance measurement during troubleshooting

ON-VEHICLE SERVICE

ADJUSTMENT OF CLEARANCE AROUND LIFTGATE

M1424003900028

Remove the headlining (Refer to GROUP 52A, HEADLINING P.52A-37), and loosen the liftgate hinge mounting nuts at body side. Then adjust the liftgate to align properly.



ALIGNMENT OF LIFTGATE LATCH AND LIFTGATE STRIKER

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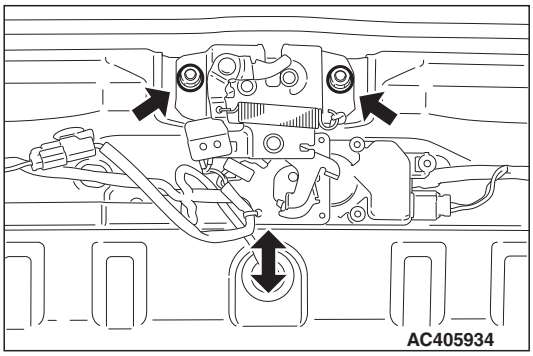
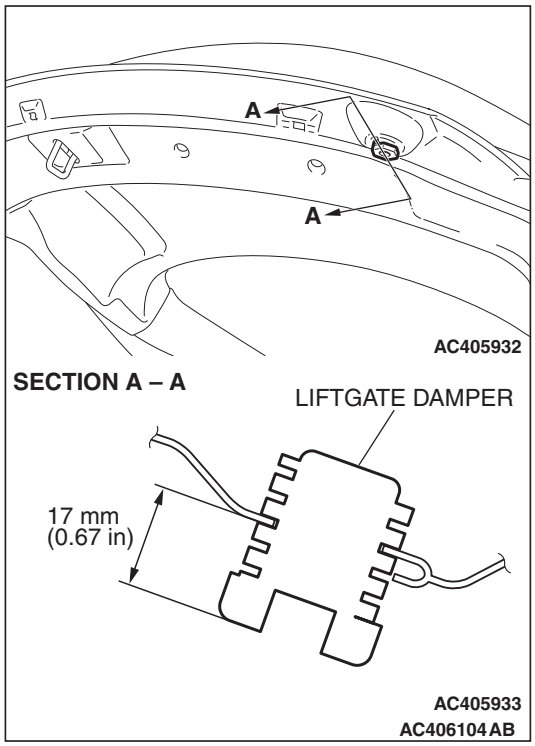


Remove the rear end trim (Refer to GROUP 52A, Trims P.52A-30). Then, loosen the liftgate latch mounting bolts and adjust the liftgate latch.

ADJUSTMENT OF LIFTGATE HEIGHT

M1424003500194



Turn the liftgate damper until the liftgate height is as shown. If the liftgate height is still not even at left and right sides, turn the liftgate damper further until the liftgate height is even. The liftgate damper height is altered by roughly 3 mm (0.1 inch) when turning the liftgate damper one rotation.

NOTE: If a rattling noise (clack) is caused by the vibration of the liftgate while driving, adjust the liftgate damper height so that the liftgate damper contacts the body securely.

LIFTGATE

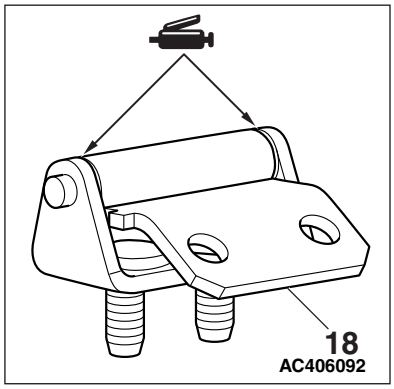
REMOVAL AND INSTALLATION

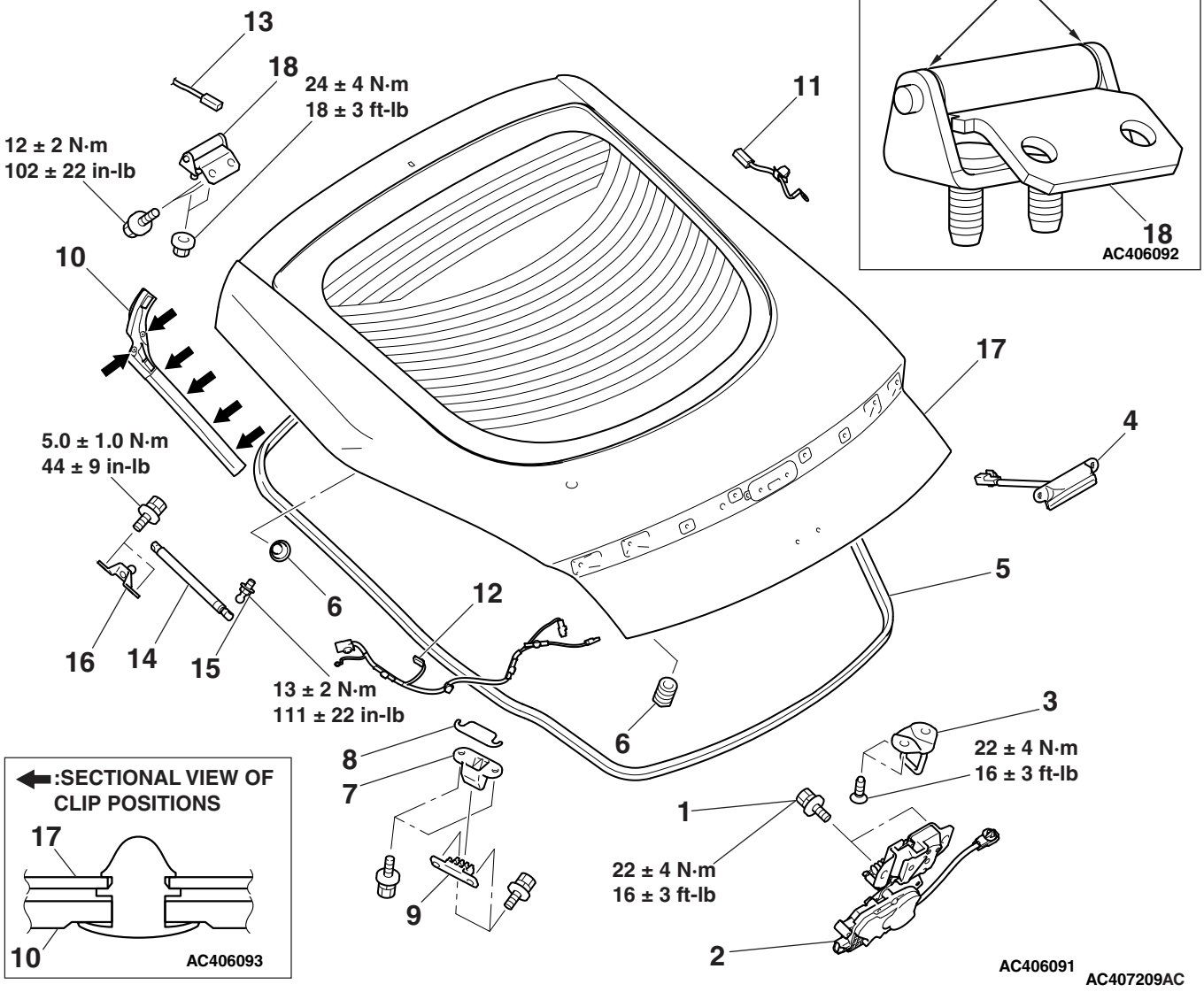
M1424001100769

⚠ CAUTION

- **Do not disassemble or throw the liftgate gas spring into fire.**
- **Punch a hole in the gas spring before disposal to release the gas inside.**
- **Ensure the liftgate gas spring piston rod does not come into contact with foreign material.**

Pre-removal Operation	Post-installation Operation
• Liftgate Trim Assembly Removal (Refer to GROUP 52A, Liftgate Trim P.52A-36). • Rear Wiper Motor and Rear Washer Hose Removal (Refer to GROUP 51, Rear Wiper and Washer P.51-21).	• Adjustment of Clearance Around Liftgate (Refer to P.42-96). • Alignment of Liftgate latch and Liftgate striker. (Refer to P.42-96). • Adjustment of Liftgate Height (Refer to P.42-97). • Rear Wiper Motor and Rear Washer Hose Installation (Refer to GROUP 51, Rear Wiper and Washer P.51-21). • Liftgate Trim Assembly Installation (Refer to GROUP 52A, Liftgate Trim P.52A-36).





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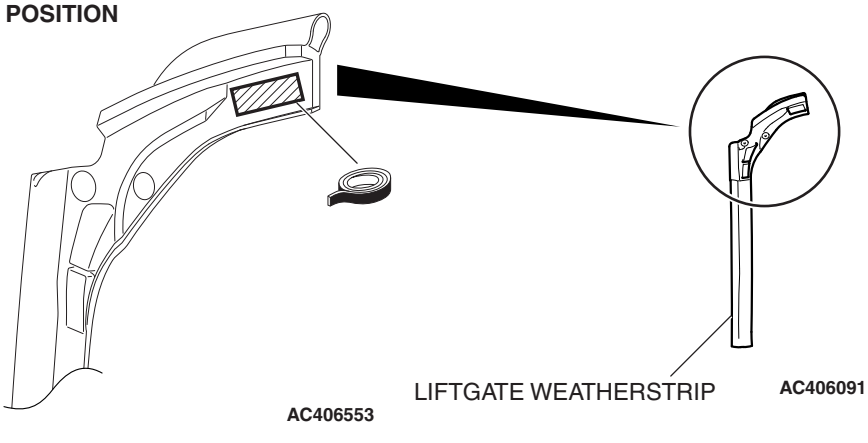
DOUBLE-SIDED TAPE POSITION



ADHESIVE TAPE: DOUBLE-SIDED TAPE [11 mm (0.43 in) WIDTH, 32 mm (1.26 in) LENGTH AND 1.1 mm (0.043 in) THICKNESS]

LIFTGATE LATCH ASSEMBLY REMOVAL STEPS

- REAR END TRIM (REFER TO GROUP 52A, TRIMS P.52A-30.)

1. EARTH BOLT
2. LIFTGATE LATCH ASSEMBLY

STRIKER REMOVAL

3. STRIKER

LIFTGATE LOCK RELEASE HANDLE REMOVAL STEPS

- HIGH-MOUNTED STOPLIGHT <VEHICLES WITHOUT LARGE TYPE REAR SPOILER> (REFER TO GROUP 54A, HIGH-MOUNTED STOPLIGHTP.54A-158.)

4. LIFTGATE LOCK RELEASE HANDLE

LIFTGATE OPENING WEATHERSTRIP REMOVAL

>>C<< 5. LIFTGATE OPENING WEATHERSTRIP

LIFTGATE ASSEMBLY REMOVAL STEPS

6. LIFTGATE DAMPER
7. LIFTGATE UPPER DAMPER
8. LIFTGATE DAMPER STOPPER SHIM
9. LIFTGATE LOWER DAMPER

- REAR WASHER NOZZLE (REFER TO GROUP 51, REAR WIPER AND WASHER P.51-21.)

10. LIFTGATE WEATHERSTRIP

- RADIO AMPLIFIER AND FEEDER ANTENNA (REFER TO GROUP 54A, ANTENNA P.54A-266.)

11. REAR DEFOGGER HARNESS
12. LIFTGATE WIRING HARNESS

<<A>> >>B<< 13. FLOOR WIRING HARNESS

<<B>> 14. LIFTGATE GAS SPRING ASSEMBLY

15. BALL JOINT
16. LIFTGATE GAS SPRING BRACKET
17. LIFTGATE ASSEMBLY

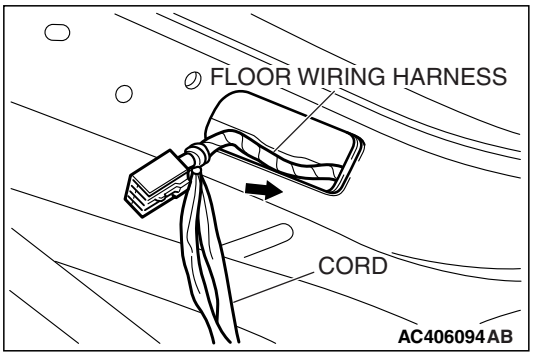
- HEADLINING (REFER TO GROUP 52A, HEADLINING P.52A-37.)

>>A<< 18. LIFTGATE HINGE

REMOVAL SERVICE POINTS

<<A>> FLOOR WIRING HARNESS REMOVAL

1. Tie a cord at the tip of the floor wiring harness.
2. Remove the floor wiring harness from the liftgate by pulling in the arrowed direction in the illustration.



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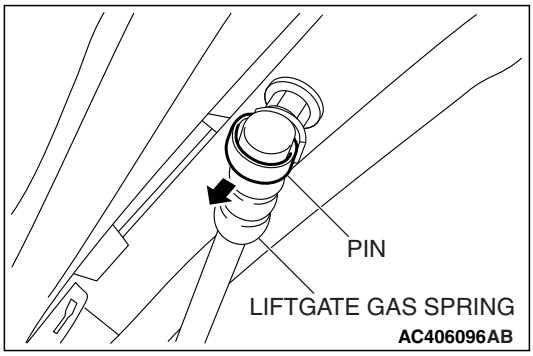
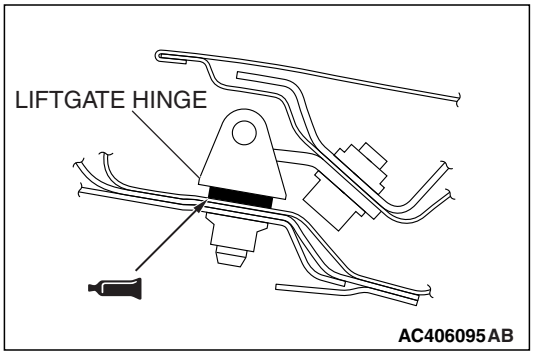
<<B>> LIFTGATE GAS SPRING REMOVAL



Slide the pin and remove the liftgate gas spring toward the arrowed direction as shown. Then, remove the ball joint and the liftgate gas spring bracket.

INSTALLATION SERVICE POINTS

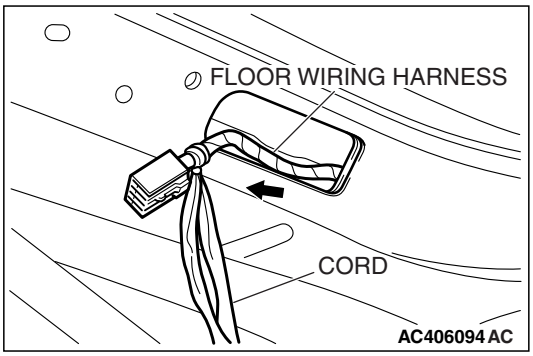
>>A<< LIFTGATE HINGE INSTALLATION



Apply the specified sealing agent to the liftgate hinge assembly surface.

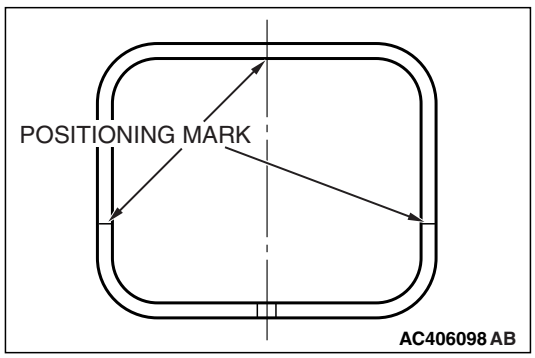
Specified Sealant: 3M™ AAD Part No. 8531 Heavy drip check sealer, 3M™AAD Part No. 8646 Automotive joint and seam sealer or equivalent

>>B<< FLOOR WIRING HARNESS INSTALLATION



Pull the cord and install the floor wiring harness to the liftgate.

>>C<< LIFTGATE OPENING WEATHERSTRIP INSTALLATION

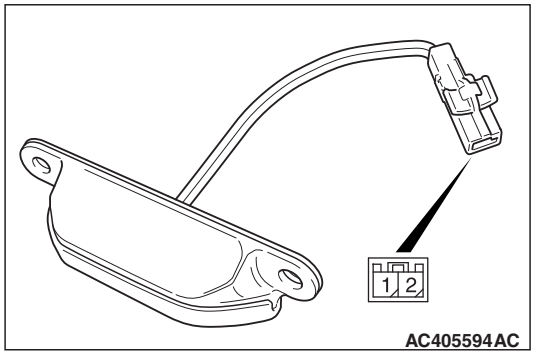


Assemble so the liftgate opening weatherstrip markings are at the center of the body and body panel joint.

INSPECTION

M1424001200227

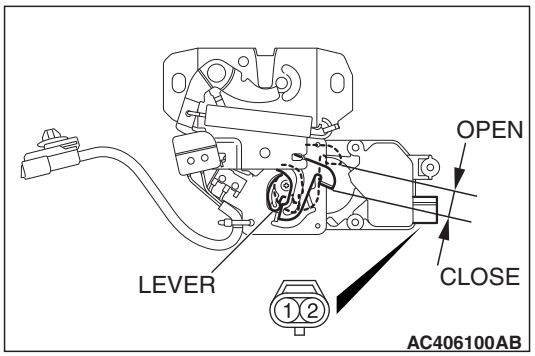
LIFTGATE LOCK RELEASE HANDLE CONTINUITY CHECK



Handle position	Tester connection	Specified condition
At the "ON (push)" position	1 – 2	Less than 2 ohms
At the "OFF" position	1 – 2	Open circuit

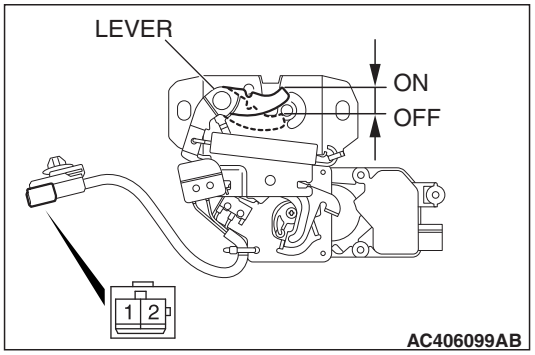
LIFTGATE LATCH CHECK

LIFTGATE LOCK ACTUATOR



Lever position	Battery connection	Lever operation
At the "CLOSE" position	• Connect terminal No. 1 and the negative battery terminal. • Connect terminal No. 2 and the positive battery terminal.	The lever moves from the "CLOSE" position to the "OPEN" position.

LIFTGATE LATCH SWITCH



Lever position	Tester connection	Specified condition
At the "ON" position	1 – 2	Less than 2 ohms
At the "OFF" position	1 – 2	Open circuit

TRUNK LID <ECLIPSE SPYDER>

TRUNK LID DIAGNOSIS

INTRODUCTION TO TRUNK LID DIAGNOSIS

M1421005800426

Difficult locking and unlocking, uneven clearance and height, and wind noise from the trunk lid may be caused by improper adjustment of the trunk lid.

TRUNK LID DIAGNOSTIC TROUBLESHOOTING STRATEGY

M1421005900382

Use these steps to plan your diagnostic strategy. If you follow them carefully, you will be sure that you have exhausted most of the possible ways to find a trunk lid fault.

1. Gather information from the customer.
2. Verify that the condition described by the customer exists.
3. Find the malfunction by following the Symptom Chart.
4. Verify malfunction is eliminated.

SYMPTOM CHART

M1421006000423

Symptom	Inspection procedure	Reference page
Difficult locking and unlocking	1	P.42-102
Uneven body clearance	2	P.42-103
Uneven height	3	P.42-103

SYMPTOM PROCEDURES

INSPECTION PROCEDURE 1: Difficult Locking and Unlocking

DIAGNOSIS

STEP 1. Check the release cable routing condition.

Q: Is the release cable routing condition good?
YES : Go to Step 3.
NO : Repair the release cable routing, then go to Step 2.

STEP 2. Check the engagement of the trunk lid latch and trunk lid striker.

Q: Are the trunk lid latch and trunk lid striker engaged correctly?
YES : Then go to Step 3.
NO : Adjust the trunk lid latch. Refer to P.42-104.

STEP 3. Retest the system.

Q: Does the trunk lid lock operate easily?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 2: Uneven Body Clearance

DIAGNOSIS

STEP 1. Check the clearance around the trunk lid.

Q: Are the apertures between the trunk lid and the adjacent body panels aligned correctly?
YES : Then go to Step 2.
NO : Adjust the trunk lid panel assembly. Refer to P.42-103.

STEP 2. Retest the system.

Q: Are the clearances between the body panels even?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 3: Uneven Height

DIAGNOSIS

STEP 1. Check the trunk lid damper height.

Q: Is the trunk lid damper height proper?
YES : Then go to Step 2.
NO : Adjust the trunk lid damper. Refer to P.42-104.

STEP 2. Retest the system.

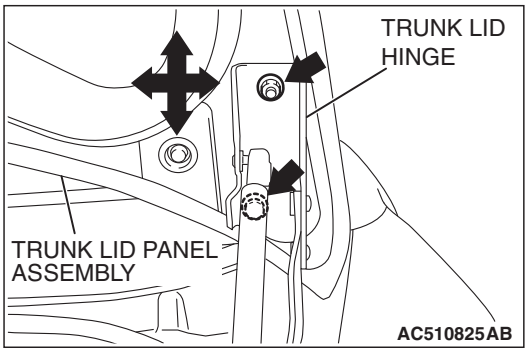
Q: Are the trunk lid and body height even?
YES : The procedure is complete.
NO : Return to Step 1.

ON-VEHICLE SERVICE

ADJUSTMENT OF CLEARANCE AROUND TRUNK LID

M1421008100051

Loosen the trunk lid panel assembly mounting bolt and nut, and move the trunk lid panel assembly to make the clearance around the trunk lid even.



TRUNK LID LATCH ADJUSTMENT

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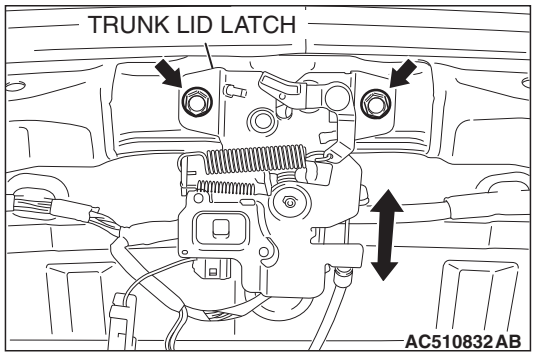

After checking the trunk lid release cable for proper routing, loosen the trunk lid latch mounting bolts. Change the position of the trunk lid latch relative to the trunk lid striker so that trunk lid locking and unlocking effort is correct.

TRUNK LID HEIGHT ADJUSTMENT

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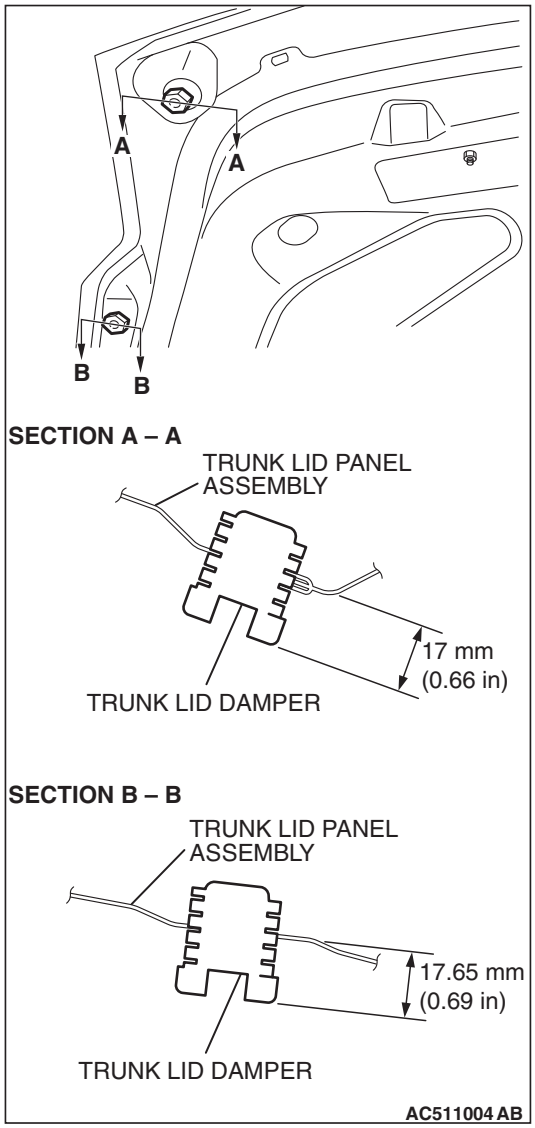


Turn each trunk lid damper to achieve the height shown in the drawing is reached. If the trunk lid panel height on one side is different from that on the other side (even after the trunk lid dampers have been adjusted to the height indicated in the drawing), turn the trunk lid damper(s) slightly to make fine adjustments to the trunk lid panel height.

NOTE: When the damper is new, one full turn of the trunk lid damper changes the height approximately 3 mm. Turn it clockwise to reduce height. Turn it counterclockwise to increase height.

TRUNK LID

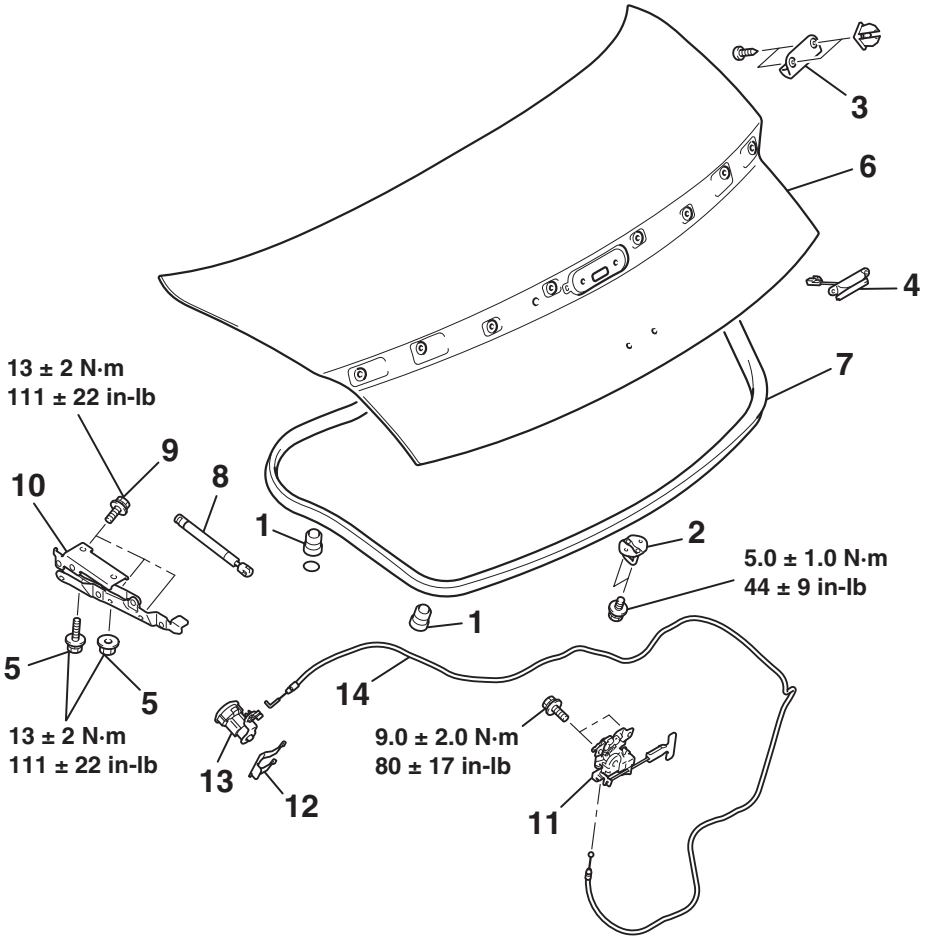
REMOVAL AND INSTALLATION

M1421002200362

⚠ CAUTION

- **Do not disassemble or throw the trunk lid gas spring into fire.**
- **Punch a hole in the trunk lid gas spring before disposal to release the gas inside.**
- **Ensure the trunk lid gas spring piston rod does not come into contact with foreign material.**

Post-installation Operation
- Adjustment of Clearance Around Trunk Lid (Refer to P.42-103).
- Trunk Lid Latch Adjustment (Refer to P.42-104).
- Trunk Lid Height Adjustment (Refer to P.42-104).



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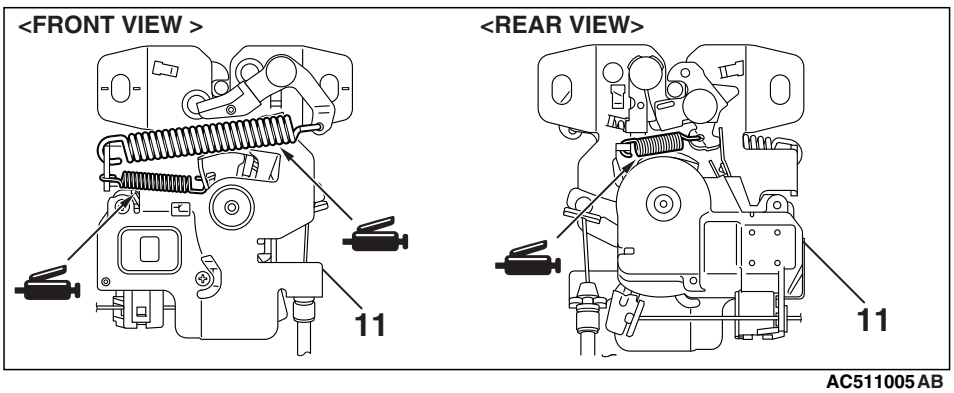

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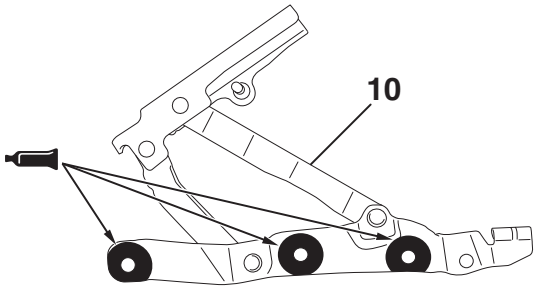
TSB Revision



ADHESIVE: 3M™ AAD PART NO.8531 HEAVY DRIP CHECK SEALER, 3M™ AAD PART NO.8646 AUTOMOTIVE JOINT AND SEAM SEALER OR EQUIVALENT

AC511006 AB

REMOVAL

1. TRUNK LID DAMPER
2. TRUNK LID LATCH STRIKER
3. TRUNK LID INSIDE HANDLE

>>A<< 7. TRUNK LID WEATHERSTRIP

TRUNK LID OPENER SWITCH REMOVAL STEPS

- HIGH-MOUNTED STOPLIGHT (REFER TO GROUP 54A, HIGH-MOUNTED STOPLIGHT P.54A-158.)

4. TRUNK LID OPENER SWITCH

TRUNK LID PANEL ASSEMBLY REMOVAL STEPS

1. TRUNK LID DAMPER
2. TRUNK LID LATCH STRIKER
3. TRUNK LID INSIDE HANDLE

- HIGH-MOUNTED STOPLIGHT (REFER TO GROUP 54A, HIGH-MOUNTED STOPLIGHT P.54A-158.)

4. TRUNK LID OPENER SWITCH
5. TRUNK LID PANEL ASSEMBLY MOUNTING BOLT AND NUT

- SATELLITE ANTENNA BASE AND ANTENNA FEEDER CABLE <VEHICLES WITH SATELLITE RADIO TUNER> (REFER TO GROUP 54A, SATELLITE RADIO TUNER P.54A-281.)

6. TRUNK LID PANEL ASSEMBLY

<<A>>

TRUNK LID HINGE REMOVAL STEPS

6. TRUNK LID PANEL ASSEMBLY
8. TRUNK LID GAS SPRING
9. TRUNK LID HINGE MOUNTING BOLT AND NUT
10. TRUNK LID HINGE

TRUNK LID LATCH REMOVAL STEPS

- REAR END TRIM (REFER TO GROUP 52A, TRIMS P.52A-30.)

11. TRUNK LID LATCH ASSEMBLY

TRUNK LID RELEASE CABLE AND TRUNK LID RELEASE HANDLE REMOVAL STEPS

- REAR END TRIM (REFER TO GROUP 52A, TRIMS P.52A-30.)

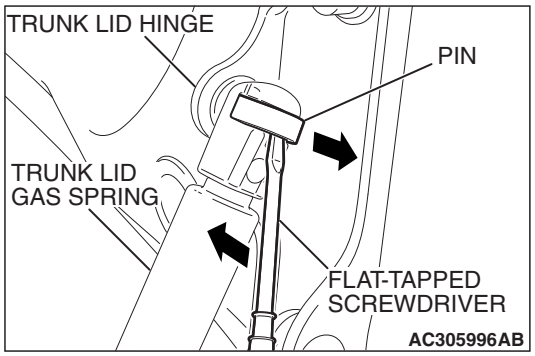
11. TRUNK LID LATCH ASSEMBLY

- WOOFER (REFER TO GROUP 54A, SPEAKER P.54A-261.)

12. DOOR LOCK CYLINDER RETAINER
13. TRUNK LID LOCK CYLINDER
14. TRUNK LID LOCK RELEASE CABLE

REMOVAL SERVICE POINT

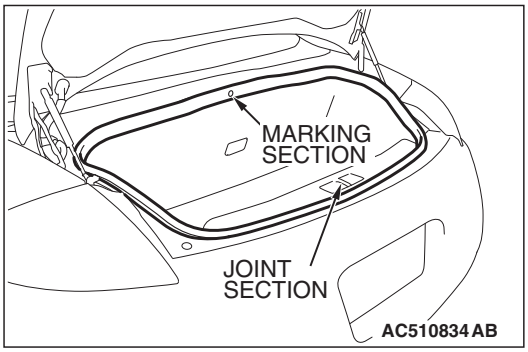
<<A>> TRUNK LID GAS SPRING REMOVAL



As shown in the figure, slide the pin upward, then remove the trunk lid gas spring in the direction of the arrow to unscrew the trunk lid hinge.

INSTALLATION SERVICE POINT

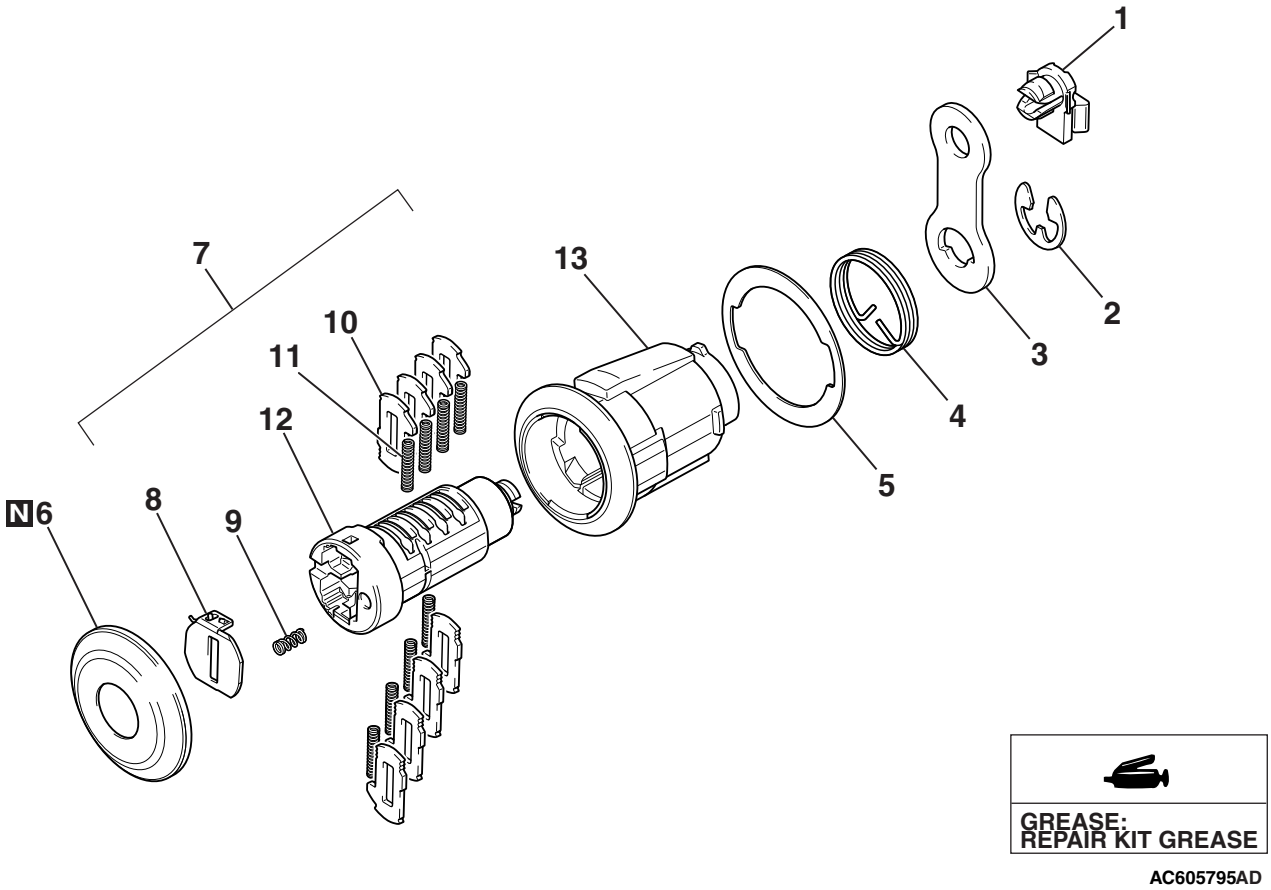
>>A<< TRUNK LID WEATHERSTRIP INSTALLATION



Install the trunk lid weatherstrip so that the marking and the joint are aligned with the body center line,

TRUNK LID LOCK CYLINDER DISASSEMBLY AND ASSEMBLY

M1421010000039



DISASSEMBLE STEPS

1. CLIP
2. RETAINER
3. LEVER
4. RETURN SPRING
5. GASKET

>>**C**<< 6. CAP

>>**B**<< 7. CYLINDER SUB-ASSEMBLY

DISASSEMBLE STEPS

8. SHUTTER ASSEMBLY
9. CYLINDER SPRING

>>**A**<< 10. TUMBLER

11. TUMBLER SPRING
12. CYLINDER PLUG
13. CASE SUB-ASSEMBLY

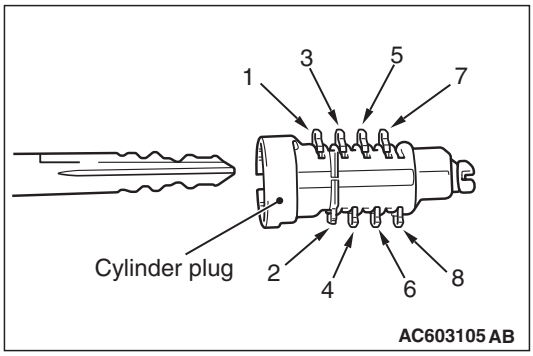
ASSEMBLY SERVICE POINT

>>A<< TUMBLER ASSEMBLY

<How to select the tumbler when the tumbler layout information can be obtained by the key code>

1. Note the location and orientation of the lever and rod clip on the lock removed from the vehicle.
2. From the key code select the proper tumbler combinations required to make a functional lock, reference key biting and tumbler placement chart (refer to table 1).

TSB Revision



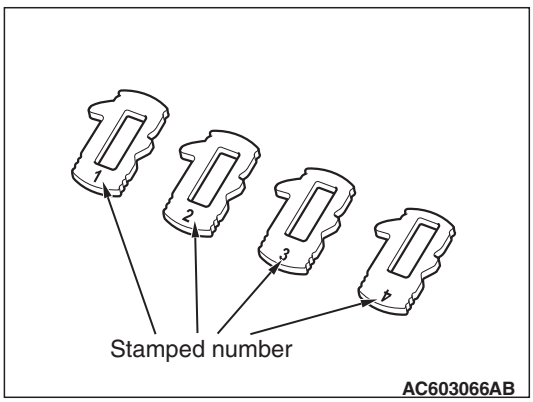
3. Tumblers load from both sides of the cylinder.
4. Locate the tumbler chamber that is closest to the head of the cylinder plug. That is tumbler ward number 1 and the first number of the key code. Tumbler ward number 3, 5 and 7 are also located on that side of the cylinder plug (odd on one side even on other).
5. Place one tumbler spring in each of the four spring pockets.
6. Using the appropriate tumbler number (tumbler number is stamped on tumbler and matches cut depth) place a tumbler in each chamber and depress tumbler tilting slightly towards the spring. The tumbler should drop freely in place and be retained. After all tumblers are inserted into the cylinder plug insert the key to make sure the tumblers drop flush with the cylinder plug body. If one does not remove and replace with thew correct tumbler that matches the cut of the key.
7. Turn the cylinder plug over and repeat the same process for chambers 2, 4, 6, and 8. Insert the key and make sure all the tumblers drop flush with the diameter of the cylinder.

Table 1: Key code to tumbler placement

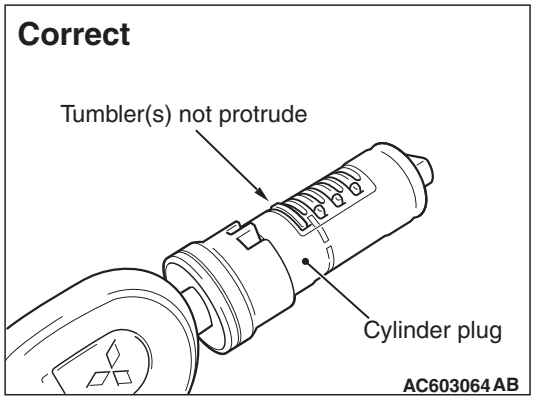
	Head of key/Cylinder							Tip of key	
Notch location	1	2	3	4	5	6	7	8	
All Ignitions	X	X	X	X	X	X	X	X	All spaces
Door	X	X	X	X	X	X	X	X	All spaces
Deck	X	X	X	X	X	X	X	X	All spaces
Trunk Release				X	X	X	X	X	5 spaces
I/P					X	X	X	X	Last 4 spaces

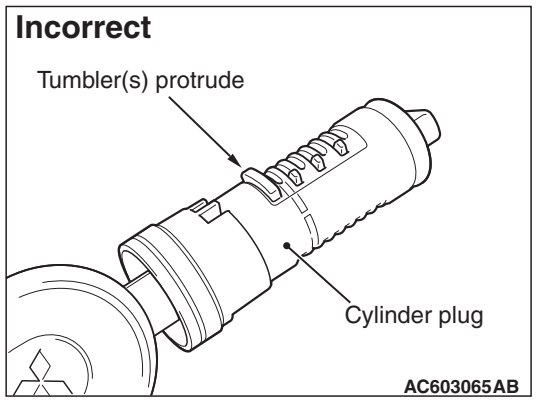
NOTE: The mark X in the table indicates the stamped number (from 1 to 4) on the tumbler.

<How to select the tumbler when the tumbler layout information cannot be obtained by the key code>

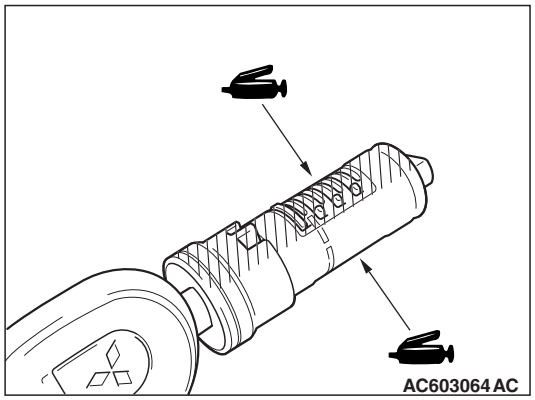


1. The repair kit contains 20 tumblers (five tumblers for each No. 1 to 4.)
2. Insert the tumbler spring into the cylinder plug spring pocket.
3. Set the tumbler No. 1 onto the cylinder plug tumbler chamber, and insert the key. Then, check that the tumbler is not protruding from the cylinder plug.





4. When the tumbler is not protruding, the correct tumbler is selected. Otherwise, the wrong tumbler is selected.If the wrong tumbler has been selected, remove the tumbler No. 1, and set the tumbler in the order from No. 2 to 4. Then, check the key insertion state and select the tumbler which does not protrude from the cylinder plug.
5. Repeat the steps previously mentioned, and set the correct tumbler into all tumbler chambers. Insert the key at last, and check that all the tumblers are clearly arranged, not protruding from the cylinder plug.

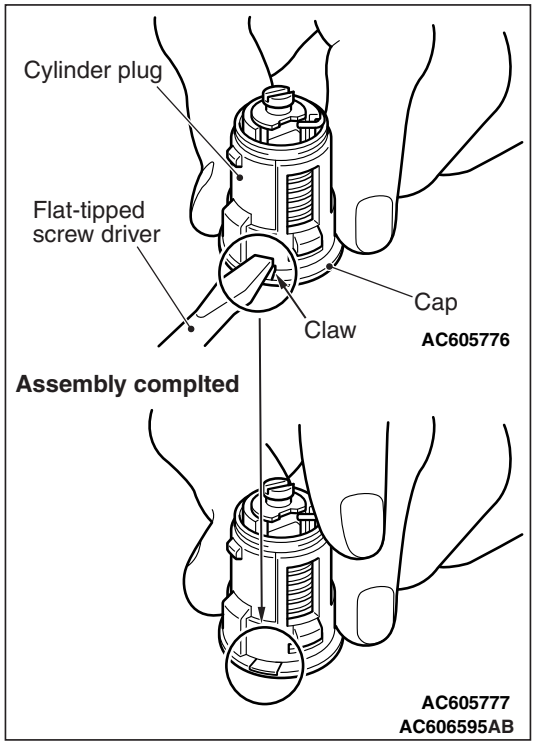


>>B<< CYLINDER SUB-ASSEMBLY ASSEMBLY

Apply the supplied grease to body surfaces of the cylinder opposite of the tumblers, in the keyway of the cylinder plug head and actuator pocket, and the inside diameter of the case.

>>C<< CAP ASSEMBLY

1. Assemble the cap onto the cylinder plug.
2. Bend the four claws on the cap using the flat-tipped screw driver.

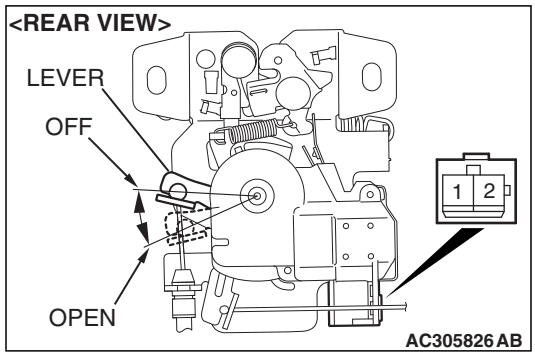


INSPECTION

M1421004800166

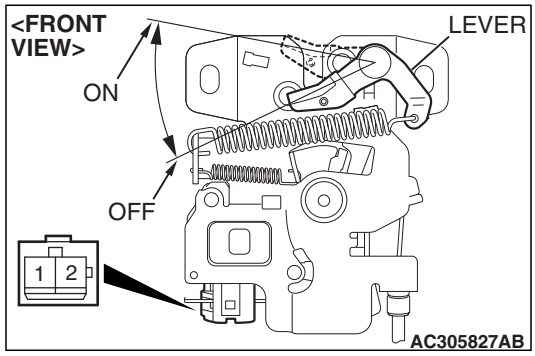
TRUNK LID LATCH ASSEMBLY CHECK

TRUNK LID LATCH ACTUATOR CHECK



Lever position	Battery connection	Lever operation
At the "OFF" position	• Connect ground and the negative battery terminal. • Connect terminal No. 1 and the positive battery terminal.	The lever moves from the "OFF" position to the "OPEN" position.

TRUNK LID LATCH SWITCH CONTINUITY CHECK



Lever position	Tester connection	Specified condition
ON (Latch open)	2 – Ground	Continuity exists (2 Ω or less)
OFF (Latch shut)	2 – Ground	Open circuit

KEYLESS ENTRY SYSTEM

GENERAL DESCRIPTION

M1428000100382

- Antenna and receiver are incorporated in the ETACS-ECU.
- Encrypted code can be registered by using scan tool MB991958 (M.U.T.-III sub assembly).
- The transmitter is integrated into the master key, and it consists of lock button, unlock button, liftgate button <ECLIPSE>, trunk lid button <ECLIPSE SPYDER> and panic button.
- When the transmitter unlock button is pressed once, the driver's door will be unlocked. If the button is pressed twice, all the doors, liftgate <ECLIPSE> and trunk lid <ECLIPSE SPYDER> will be unlocked.
- When the transmitter is operated, the answerback function will work as follows:

Item	Operation	
	Doors, liftgate <ECLIPSE> and trunk lid <ECLIPSE SPYDER> locked	**Doors, liftgate <ECLIPSE> and trunk lid <ECLIPSE SPYDER> unlocked**
Dome light	Flashes once	Illuminates for 15 seconds
Turn-signal lights (RH and LH)	Flashes once	Flashes twice
Horn	Sounds once when the lock button is pressed with all the doors, liftgate <ECLIPSE> and trunk lid <ECLIPSE SPYDER> locked	-

- The answerback operation can be adjusted as follows:

Item	Adjustment item	Adjustment detail
Keyless entry system confirmation by turn signal lights	Adjustment of hazard answerback when the transmitter is used to lock doors	When adjusting hazard answerback after the doors are locked with the transmitter, the following flashing conditions can be selected. a. Flash (default) b. No flash
	Adjustment of hazard answerback when the transmitter is used to unlock doors	When adjusting hazard answerback after the doors are unlocked with the transmitter, the following flashing conditions can be selected. a. Flash (default) b. No flash
Keyless entry system confirmation by horn	Adjustment of horn answerback when the transmitter is used to lock doors	When adjusting horn answerback after the doors are locked with the transmitter, the following horn conditions can be selected. a. Horn sounds b. Horn sounds if doors are already locked (default) c. Horn does not sound

- If none of the doors are opened or the ignition key is not inserted in the ignition switch within 30 seconds after the doors are unlocked using the transmitter, the ETACS-ECU will relock the doors automatically.

NOTE: The timer lock period begins when the doors are unlocked, and ends when the doors are relocked automatically.

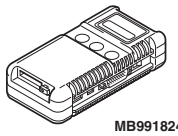
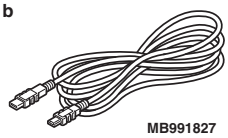
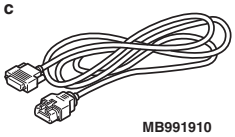
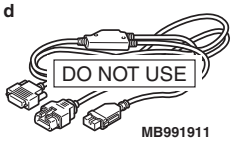
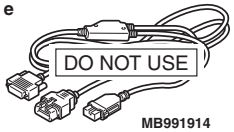
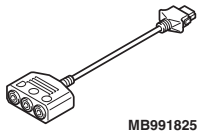
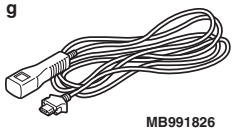
KEYLESS ENTRY SYSTEM DIAGNOSIS

M1428000700492

The keyless entry system is controlled by the Simplified Wiring System (SWS). Refer to GROUP 54B, Diagnosis P.54B-54.

SPECIAL TOOL

M1428000600622

Tool	Tool number and name	Supersession	Application
a  MB991824 b  MB991827 c  MB991910 d  DO NOT USE MB991911 e  DO NOT USE MB991914 f  MB991825 g  MB991826 MB991958	MB991958 a. MB991824 b. MB991827 c. MB991910 d. MB991911 e. MB991914 f. MB991825 g. MB991826 M.U.T.-III sub assembly a. Vehicle communication interface (V.C.I.) b. M.U.T.-III USB cable c. M.U.T.-III main harness A (Vehicles with CAN communication system) d. M.U.T.-III main harness B (Vehicles without CAN communication system) e. M.U.T.-III main harness C (for Chrysler models only) f. M.U.T.-III measurement adapter g. M.U.T.-III trigger harness	MB991824-KIT *NOTE: g: MB991826 M.U.T.-III trigger harness is not necessary when pushing V.C.I. ENTER key.*	**⚠ CAUTION** **For vehicles with CAN communication, use M.U.T.-III main harness A to send simulated vehicle speed. If you connect M.U.T.-III main harness B instead, the CAN communication does not function correctly.** For registration of secret code

ON-VEHICLE SERVICE

KEYLESS ENTRY SYSTEM INSPECTION

M1428001400320

Check the following items. If defective, refer to GROUP 54B, Diagnosis P.54B-54.

1. Operate the transmitter to check that the doors, liftgate <ECLIPSE> and trunk lid <ECLIPSE SPYDER> can be locked and unlocked.
   - When the unlock button is pressed once, the driver's door will be unlocked. Then when the button is pressed once again, all the doors, liftgate <ECLIPSE> and trunk lid <ECLIPSE SPYDER> will be unlocked.

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2. Press the liftgate button of transmitter twice (press once, and then press again within 5 seconds) and confirm that the liftgate opens <ECLIPSE>.
3. Press the trunk lid button of transmitter twice (press once, and then press again within 5 seconds) and confirm that the trunk lid opens <ECLIPSE SPYDER>.
4. Operate the transmitter to check that the answerback function works in response to doors, liftgate <ECLIPSE> and trunk lid <ECLIPSE SPYDER> locking/unlocking.

   NOTE: The adjustment function allows you to change the hazard answerback setting as follows. Prior to that check, confirm which setting is activated.

   a. *Turn-signal lights: Flash once when doors, liftgate <ECLIPSE> and trunk lid <ECLIPSE SPYDER> are locked, and twice when unlocked (initial setting).*
   b. *Turn-signal lights: Flash once when doors, liftgate <ECLIPSE> and trunk lid <ECLIPSE SPYDER> are locked, but does not flash when unlocked.*
   c. *Turn-signal lights: Do not flash when doors, liftgate <ECLIPSE> and trunk lid <ECLIPSE SPYDER> are locked, but flash twice when unlocked.*
   d. *Turn-signal lights: Do not flash when doors, liftgate <ECLIPSE> and trunk lid <ECLIPSE SPYDER> are locked and unlocked.*

   NOTE: The adjustment function allows you to change the horn answerback setting as follows. Prior to that check, confirm which setting is activated.

   a. *Horn: Sounds once when the lock button is pressed.*
   b. *Horn: Sounds once when the lock button is pressed with the doors locked (initial setting).*
   c. *Horn: Does not sound.*

KEYLESS ENTRY SYSTEM TIMER LOCK FUNCTION INSPECTION

M1428004000309

If the doors are not locked within 30 seconds after the unlock button is pressed, refer to GROUP 54B, Diagnosis P.54B-54.

NOTE: If either of the doors is opened or the key is inserted in the ignition switch within that 30-seconds period, the timer lock function will be cancelled.

ENABLING/DISABLING THE ANSWERBACK FUNCTION

M1428003200474

When the doors are locked or unlocked by using the transmitter, the dome light will flash/illuminate, the turn-signal lights will flash (hazard answerback), or the horn will sound (horn answerback) to inform the driver.
The hazard answerback and horn answerback functions can be enabled or disabled according to the following procedure:

ENABLING/DISABLING THE HAZARD ANSWERBACK FUNCTION

HOW TO ADJUST HAZARD ANSWERBACK WHEN THE TRANSMITTER IS USED TO LOCK DOORS

1. Remove the ignition key.
2. Press the "unlock" button for 4 to 10 seconds and press the "lock" button during this time.
3. Release the "lock" button and then release the "unlock" button within 10 seconds of pressing the "lock" button in Step 2. The ETACS-ECU tone alarm will sound, indicating that the hazard answerback function can be enabled or disabled when the doors are locked.
    - **Enable the hazard answerback function when the doors are locked: The ETACS-ECU tone alarm will sound once.**
    - **Disable the hazard answerback function when the doors are locked: The ETACS-ECU tone alarm will sound twice.**

HOW TO ADJUST HAZARD ANSWERBACK WHEN THE TRANSMITTER IS USED TO UNLOCK DOORS

1. Remove the ignition key.
2. Press the "unlock" button for 4 to 10 seconds and press the "lock" button during this time.
3. Release the "unlock" button and then release the "lock" button within 10 seconds of pressing the "lock" button in Step 2. The ETACS-ECU tone alarm will sound, indicating that the hazard answerback function can be enabled or disabled when the door are unlocked.
    - **Enable the hazard answerback function when the doors are unlocked: The ETACS-ECU tone alarm will sound once.**
    - **Disable the hazard answerback function when the doors are unlocked: The ETACS-ECU tone alarm will sound twice.**

ENABLING/DISABLING THE HORN ANSWERBACK FUNCTION

1. Remove the ignition key.
2. Press the "lock" button for 4 to 10 seconds and press the "unlock" button during this time.
3. Release the "lock" and "unlock" buttons within 10 seconds of pressing the "unlock" button in Step 2. The ETACS-ECU tone alarm will sound, indicating that the horn answerback function can be enabled or disabled.
    - **Enable the horn answerback function*: The ETACS-ECU tone alarm will sound once.**

- **Disable the horn answerback function: The ETACS-ECU tone alarm will sound twice.**
- **Enable the horn answerback function**: The ETACS-ECU tone alarm will sound three times.**

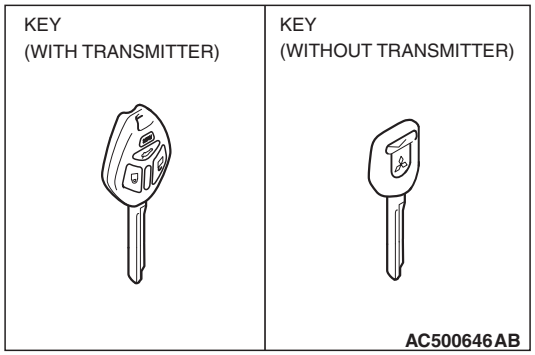
NOTE:
**: The horn will sound if the doors are locked with the keyless entry system.*
***: The horn will sound if the doors are already locked and the keyless entry lock button is operated.*

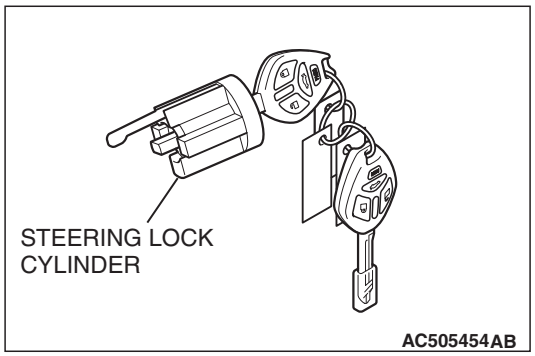
HOW TO REGISTER SECRET CODE

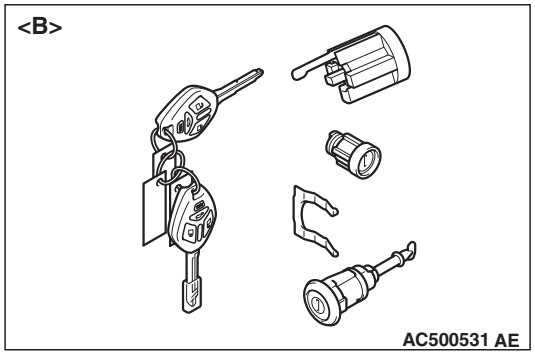
M1428001001046

⚠ CAUTION

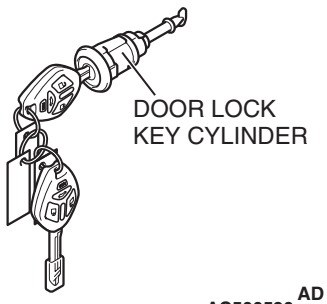
- **When adding the ignition key separately, or replacing the components by the steering lock cylinder of illustration <A> (the ignition key is simultaneously supplied) or the key set of illustration <B>, register the encrypted code.Refer to GROUP 54A, Encrypted Code Registration Criteria Table P.54A-19.**





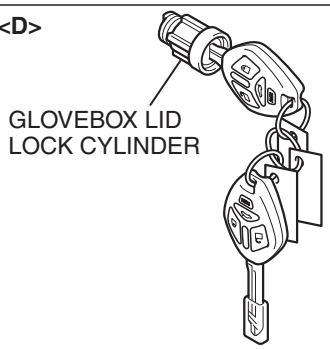


<C>



AC500530 AD

<D>



AC500529 AC

- **When replacing the components by the door lock key cylinder of illustration <C> or the glove box lid lock cylinder of illustration <D>, do not register the encrypted code with the bar code on the ignition key which is supplied to each lock cylinder simultaneously.**

Required Special Tools:

- MB991958: M.U.T.-III Sub Assembly
  - MB991824: Vehicle Communication Interface (V.C.I.)
  - MB991910: M.U.T.-III Main harness A

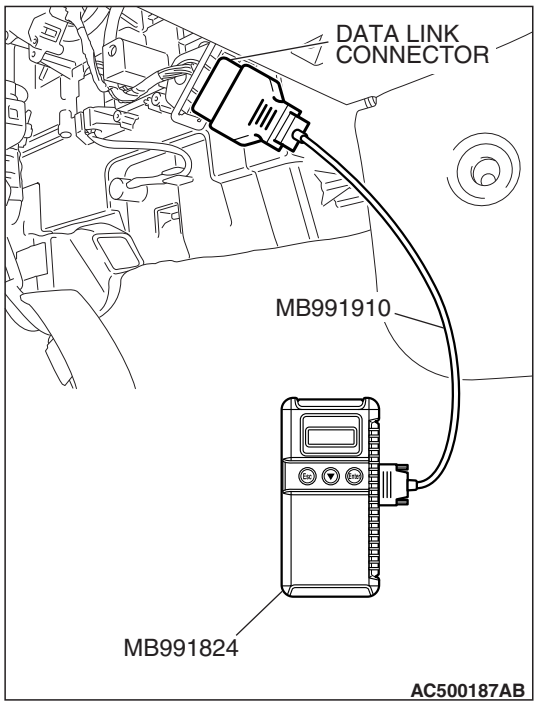
Each individual secret code is registered inside the transmitter, and so it is necessary to resister these codes with the EEPROM inside the receiver in the following cases.

- When the transmitter or ETACS-ECU is replaced.
- If more transmitters are to be used.
- If it appears that a problem is occurring because of faulty registration of a code.

A maximum of four different codes can be stored in the EEPROM memory (four different transmitters can be used). When the code for the first transmitter is registered, the previously registered codes for all transmitters are cleared. Therefore, if you are using four transmitters or are adding more transmitters, the codes for all transmitters must be registered at the same time.

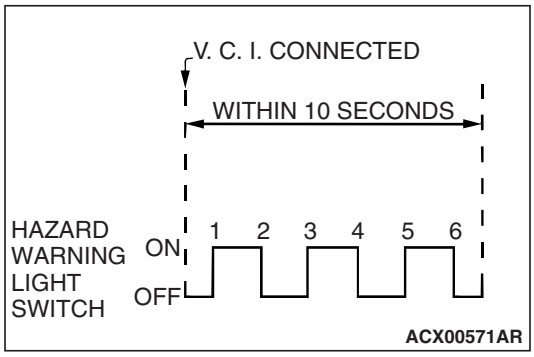
WHEN SPECIAL TOOL MB991824 (V.C.I.) IS USED

1. Check that the doors lock normally when the key is used.
2. Insert the ignition key.



⚠ CAUTION
To prevent damage to special tool MB991824 (V.C.I.), always turn the ignition switch to "LOCK" (OFF) position before connecting or disconnecting special tool MB991824 (V.C.I.).

3. Connect special tool MB991824 (V.C.I.) to the data link connector.



4. Press the hazard warning light switch six times within 10 seconds.

   NOTE: When the hazard warning light switch has been pressed six times, the ETACS-ECU locks and unlocks the doors automatically once. The ETACS-ECU is ready to register an encrypted code.

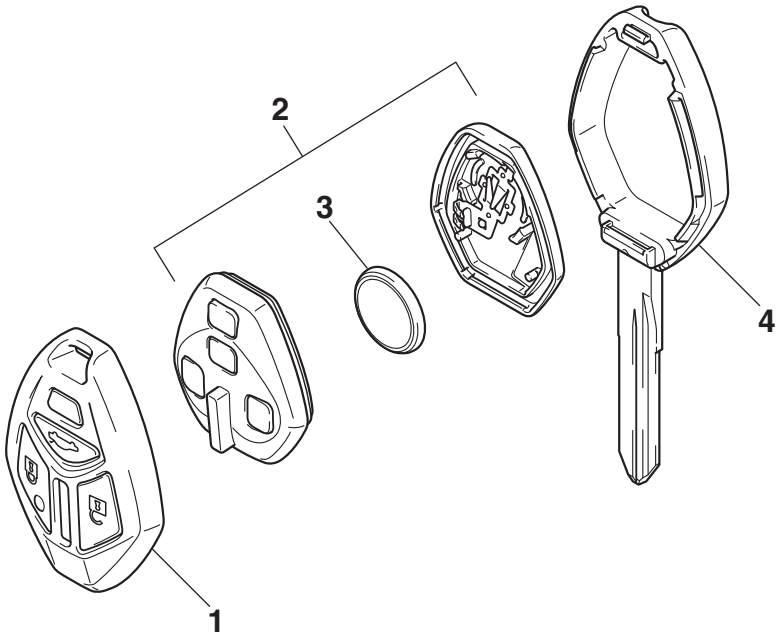
   NOTE: The hazard warning light switch is a toggle switch.
5. Press the transmitter button, and then press it two times within 10 seconds of the first press. This will register the code.
6. When the encrypted code has been registered, the ETACS-ECU locks and unlocks the doors automatically once.
7. If you are using two or more transmitters or have added a second transmitter, the next transmitter should be registered within one minute after registering the code for the previous transmitter. The registration procedure is common for all the transmitter.
8. Registration mode will be canceled under the following conditions:
   - When the secret code for four transmitters has been registered;
   - When passing one minute after finishing the registration of all transmitters;
   - When special tool MB991824 (V.C.I.) is disconnected;
   - When the key is removed from the key cylinder;
9. After the registration is completed, remove the ignition key and close all the doors, and then check that the keyless entry system operates normally.

TRANSMITTER

DISASSEMBLY AND ASSEMBLY

M1428002800279

Post-installation operation
- Transmitter operation check



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DISASSEMBLY STEPS

<<**A**>>
1. UPPER COVER
2. TRANSMITTER ASSEMBLY

<<**B**>> >>**A**<<
3. BATTERY
4. MASTER KEY

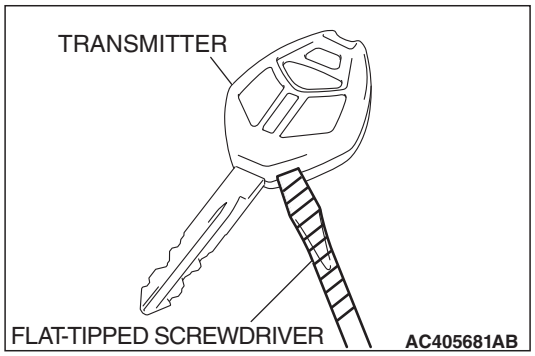
DISASSEMBLY SERVICE POINTS

<<A>> UPPER COVER REMOVAL

⚠ CAUTION

To prevent damage to the transmitter, wrap a flat-tipped screwdriver with protective tape before prying.

Insert a flat-tipped screwdriver in the area shown, and remove the upper cover by prying it with the screwdriver.



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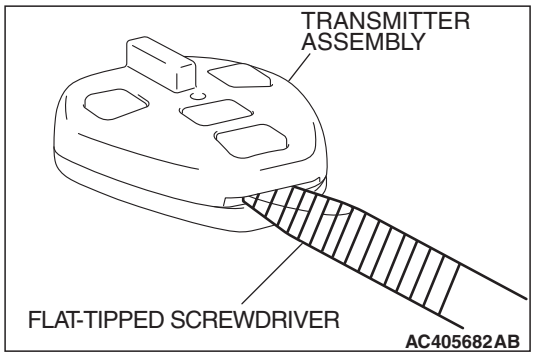
<<B>> BATTERY REMOVAL

⚠ CAUTION

- **Do not allow water or dust to enter the inside of the transmitter assembly when it is open. Also, do not touch the precision electronic device.**
- **To prevent damage to the transmitter assembly, wrap a flat-tipped screwdriver with protective tape before prying.**



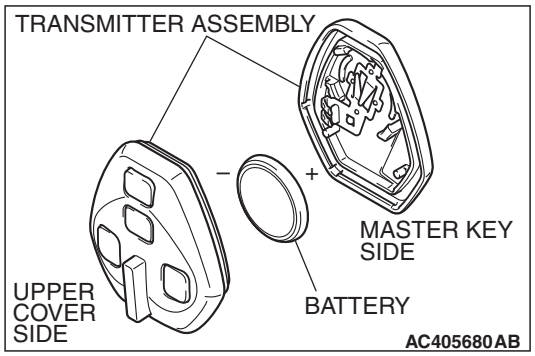
Insert a flat-tipped screwdriver in the area shown, and remove the battery by prying it with the screwdriver.

ASSEMBLY SERVICE POINT

>>A<< BATTERY INSTALLATION

⚠ CAUTION

Do not allow water or dust to enter the inside of the transmitter assembly when it is open. Also, do not touch the precision electronic device.



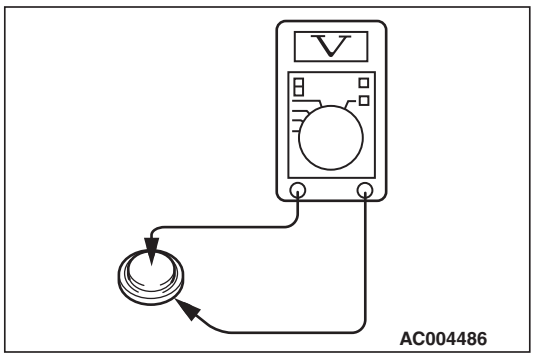
Install a new battery to the transmitter assembly with its (+) side facing towards the master key side.

Battery required for replacement: Coin type battery CR1620

INSPECTION

M1428003800186

TRANSMITTER BATTERY CHECK



Measure the voltage of the battery. If the voltage of the battery is not within the standard value, replace the battery.

Standard value:2.5 – 3.2 V

SUNROOF ASSEMBLY <ECLIPSE>

GENERAL DESCRIPTION

M1426000100290

A motor-driven inner slide-type glass sunroof with a tilt-up mechanism is available in some models as a standard or optional equipment.

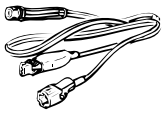
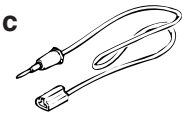
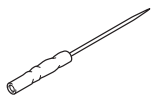
SUNROOF DIAGNOSIS

M1426000700418

The sunroof system is controlled by the Simplified Wiring System (SWS). Refer to GROUP 54B, Diagnosis P.54B-54.

SPECIAL TOOLS

M1426000600295

Tool	Tool number and name	Supersession	Application
a b  c  d MB991223	MB991223 Harness set a. MB991219 Test harness b. MB991220 LED harness c. MB991221 LED harness adapter d. MB991222 Probe	General service tools	Making voltage and resistance measurement during troubleshooting a: Connector pin contact pressure inspection b: Power circuit inspection c: Power circuit inspection d: Commercial tester connection
 MB992006	MB992006 Extra fine probe	General service tool	Making voltage and resistance measurement during troubleshooting

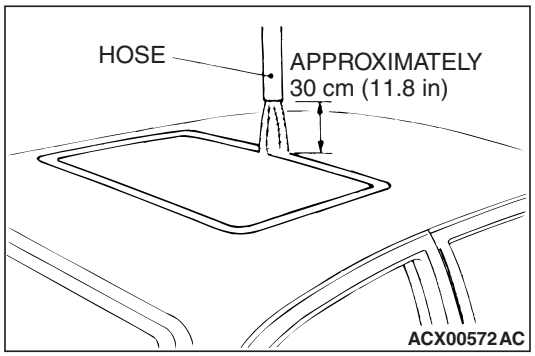
ON-VEHICLE SERVICE

WATER TEST

M1426000900393

Check if there are any leaks in the sunroof by the following procedure.

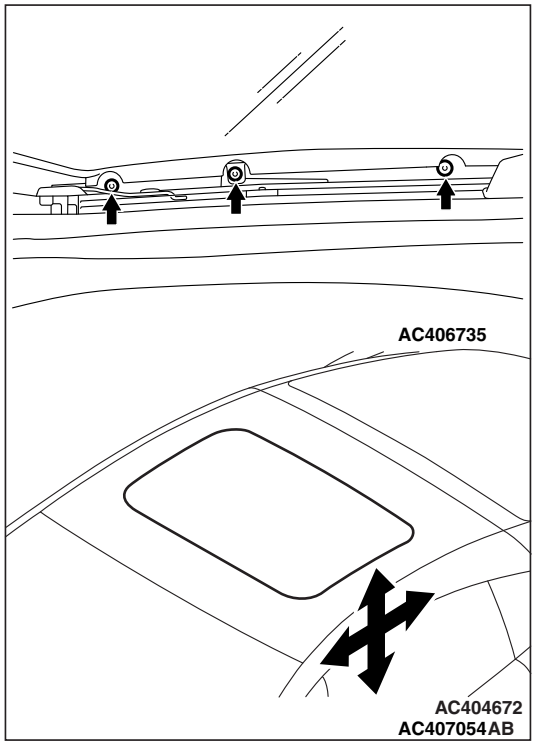
1. Fully close the roof lid glass.
2. Adjust the water pressure so that water comes out of the hose to a height of approximately 50 cm (19.7 inches) when the hose is held vertically facing upwards.



3. Hold the end of the hose approximately 30 cm (11.8 inches) above the roof and let the water run onto the weatherstrip for 5 minutes or more.
4. Check if any water leaks can be found in the room while watering. Even though there are any water leaks around the roof lid glass, it can be acceptable as long as water is caught in the drip area.

SUNROOF FIT ADJUSTMENT

M1426001000401



1. Fully close the roof lid glass.
2. Fully open the sunshade.
3. Loosen the roof lid glass assembly mounting screws. Align the roof lid glass by moving it backward, forward, up or down along the guide oblong hole so that the clearance between the glass and the vehicle body is even.
4. Check to be sure that the roof lid glass is flush with the roof panel at corner areas.
5. Check to be sure that the sunroof operates smoothly.

SUNROOF CHECK

M1426004700261

Check to see that the sunroof operates by pressing the sunroof switch. Perform troubleshooting if operations malfunction (Refer to GROUP 54B, Diagnosis P.54B-54).

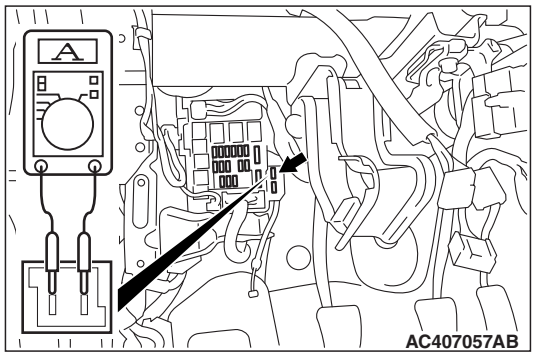
SUNROOF TIMER FUNCTION CHECK

M1426004300155

Keep the door closed, turn OFF the ignition switch and check to see if the sunroof can be operated for 30 seconds after that. If not, perform troubleshooting (Refer to GROUP 54B, Diagnosis P.54B-54).

ROOF LID GLASS OPERATION CURRENT CHECK

M1426003200285



1. Remove the fuse of the sunroof, then connect the circuit tester as shown in the Figure.
2. Turn ON the sunroof switch, then measure the operating current when the roof lid glass is halfway opened.

   Standard value: 7 A or less [at 20 °C (68 °F)]
3. Check the following areas if the operating current exceeds the standard value:
   - Sunroof installation, deformation and presence of any foreign substances.
   - Drive cable installation.
   - Tilting of roof lid glass.

SUNROOF OPERATION CHECK

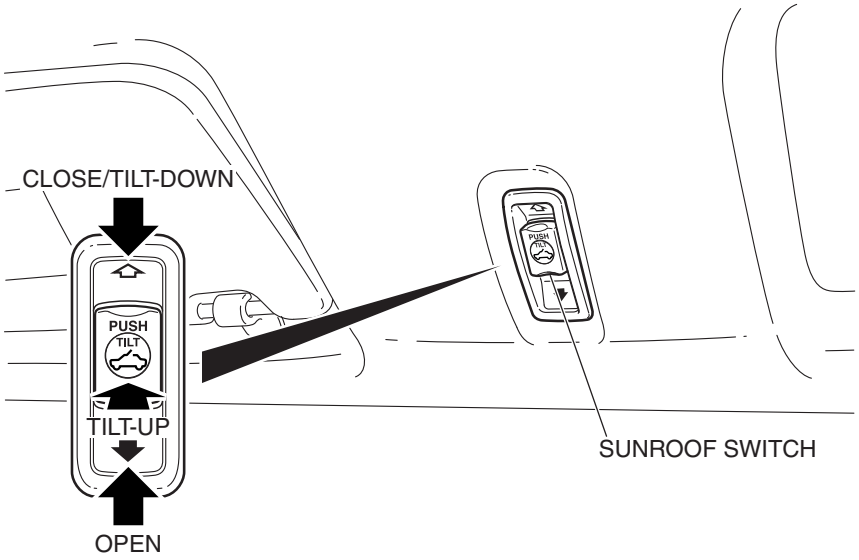
M1426002600558

⚠ CAUTION

Check that the following items are normal before carrying out this operation check.

- **Installation condition of the sunroof assembly**
- **Installation condition, deformation and contamination of the sunroof drive cable**
- **Installation of sunroof lid glass**
- **Sunroof switch and sunroof motor assembly**

Check that the following items. If faulty, replace the sunroof motor assembly.



BASIC OPERATION

No.	Sunroof function	Requirements for the sunroof to function		Normal operation
01	OPEN	1. Ignition switch: ON 2. Sunroof switch: OPEN		When the open switch is operated, the sunroof lid glass stops approximately 40 mm (1.6 inches) before the fully-open position. This position is called comfort position. The sunroof lid glass can be fully opened by operating the open switch again.
02	CLOSE	1. Ignition switch: ON 2. Sunroof switch: CLOSE/TILT-DOWN		The sunroof closes while the sunroof switch is pushed to the CLOSE/TILT-DOWN position.
03	TILT-UP	1. Ignition switch: ON 2. Sunroof switch: TILT-UP		The sunroof tilts up fully and automatically.
04	TILT-DOWN	1. Ignition switch: ON 2. Sunroof switch: CLOSE/TILT-DOWN		The sunroof closes while the sunroof switch is pushed to the CLOSE/TILT-DOWN position.
05	AUTOMATIC OPERATION INTERRUPTION (OPEN)	A	1. Ignition switch: ON 2. Sunroof switch: OPEN or TILT-UP	The sunroof stops the automatic opening operation.
		B	1. Ignition switch: ON 2. Sunroof switch: CLOSE/TILT-DOWN (Push the sunroof switch to the CLOSE/TILT-DOWN position while the sunroof is automatically opening and release the switch within two seconds)	The sunroof stops the automatic opening operation.
		C	1. Ignition switch: ON 2. Sunroof switch: CLOSE/TILT-DOWN (Push the sunroof switch to the CLOSE/TILT-DOWN position more than two seconds while the sunroof is automatically opening)	The sunroof stops the automatic opening operation, and the sunroof closes while the sunroof switch is pushed to the CLOSE/TILT-DOWN position.
06	AUTOMATIC OPERATION INTERRUPTION (TILT-UP)	1. Ignition switch: ON 2. Sunroof switch: OPEN or TILT-UP, CLOSE/TILT-DOWN		The sunroof stops the automatic opening operation.

SUNROOF TIMER MECHANISM

In cases except the following, the basic operation and jam preventing mechanism will be maintained for thirty seconds after the ignition switch is turned to the "LOCK" (OFF) position. (Sunroof timer function)

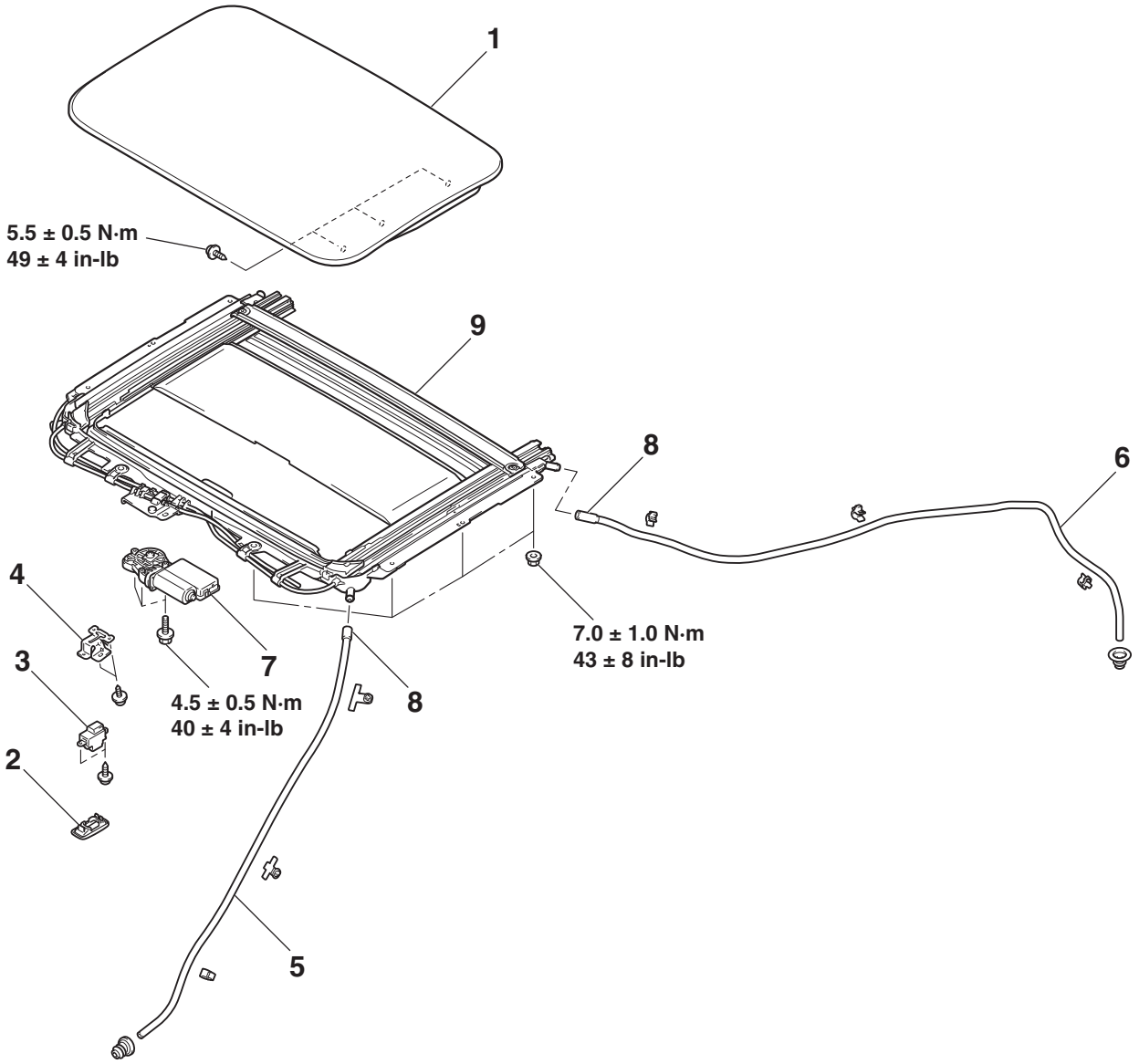
- If you open a door within that period (i.e. a door switch is on), the sunroof timer function will be cancelled immediately.
- If you turn the ignition switch to the "LOCK" (OFF) position while the timer is working, the sunroof will continue moving until it closes fully, regardless of the time-out period.

SUNROOF ASSEMBLY

REMOVAL AND INSTALLATION

M1426001200524

Post-installation Operation <Roof lid glass assembly, Sunroof assembly>
- Sunroof Water Test (Refer to P.42-121).
- Sunroof Fit Adjustment (Refer to P.42-122).



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ROOF WINDOW GLASS ASSEMBLY REMOVAL
1. ROOF LID GLASS ASSEMBLY

SUNROOF SWITCH REMOVAL STEPS
2. SUNROOF SWITCH COVER
3. SUNROOF SWITCH
- HEADLINING ASSEMBLY (REFER TO GROUP 52A, HEADLINING P.52A-37.)

4. SUNROOF SWITCH BRACKET

FRONT DRAIN PIPE REMOVAL STEPS
2. SUNROOF SWITCH COVER
- HEADLINING ASSEMBLY (REFER TO GROUP 52A, HEADLINING P.52A-37.)
- ETACS-ECU (FRONT DRAIN PIPE <LH>) (REFER TO GROUP 54A, IMMOBILIZER SYSTEM P.54A-56.)

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FRONT DRAIN PIPE REMOVAL STEPS (Continued)
- FRONT SPLASH SHIELD FRONT DRAIN PIPE <RH>) (REFER TO P.42-12.)

>>A<< 5. FRONT DRAIN PIPE

REAR DRAIN PIPE REMOVAL STEPS

2. SUNROOF SWITCH COVER
- HEADLINING ASSEMBLY (REFER TO GROUP 52A, HEADLINING P.52A-37.)
- QUARTER WINDOW FLANGE TRIM (REFER TO GROUP 52A, TRIMS P.52A-30.)
- REAR SPLASH SHIELD (REFER TO GROUP 51, REAR BUMPER P.51-4.)

>>A<< 6. REAR DRAIN PIPE

SUNROOF MOTOR ASSEMBLY REMOVAL STEPS

2. SUNROOF SWITCH COVER
- HEADLINING ASSEMBLY (REFER TO GROUP 52A, HEADLINING P.52A-37.)

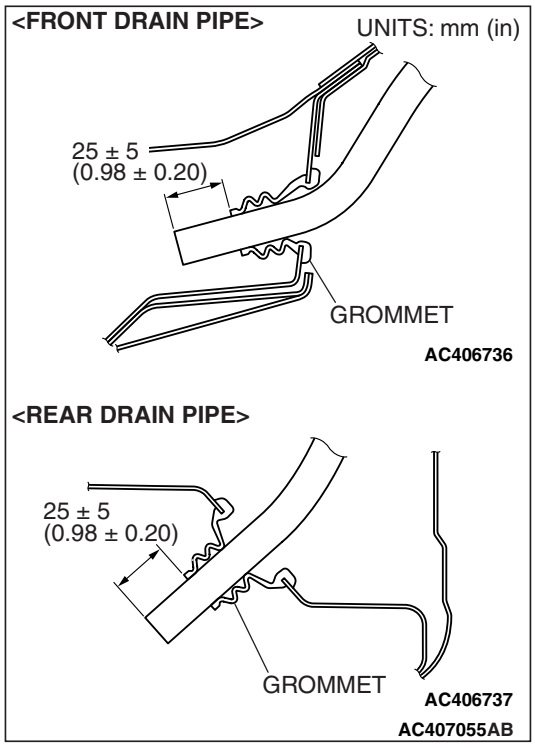
7. SUNROOF MOTOR ASSEMBLY

SUNROOF ASSEMBLY REMOVAL STEPS

1. ROOF LID GLASS ASSEMBLY
2. SUNROOF SWITCH COVER
- HEADLINING ASSEMBLY (REFER TO GROUP 52A, HEADLINING P.52A-37.)

7. SUNROOF MOTOR ASSEMBLY
8. FRONT AND REAR DRAIN PIPE CONNECTION
9. SUNROOF ASSEMBLY

Required Special Tool:
- MB991223: Harness set



INSTALLATION SERVICE POINT

>>A<< REAR DRAIN PIPE/FRONT DRAIN PIPE INSTALLATION

Install the grommet, and then position the drain pipe so that it protrudes from the grommet as shown in the illustration.

INSPECTION

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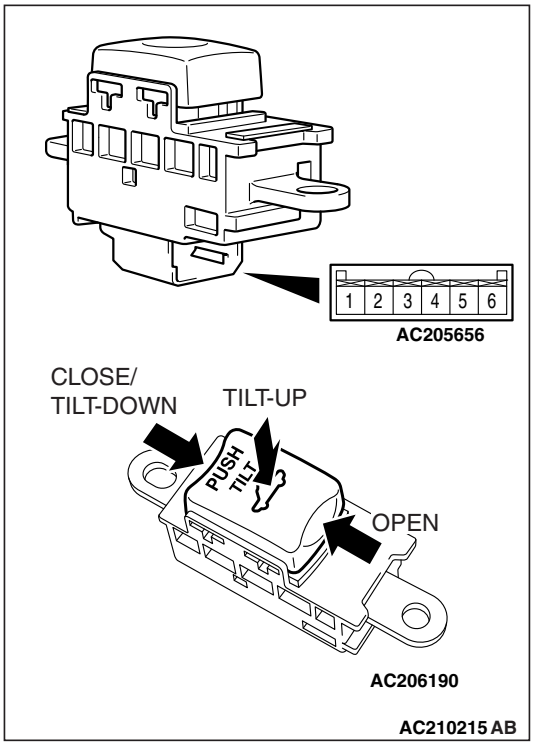
SUNROOF SWITCH CONTINUITY CHECK



Switch position	Tester connection	Specified condition
Open	4 – 5	Less than 2 ohms
Off	3 – 4, 3 – 5, 3 – 6, 4 – 5, 4 – 6, 5 – 6	Open circuit
Tilt-up	3 – 4	Less than 2 ohms
Close/Tilt-down	4 – 6	Less than 2 ohms

DISASSEMBLY AND ASSEMBLY

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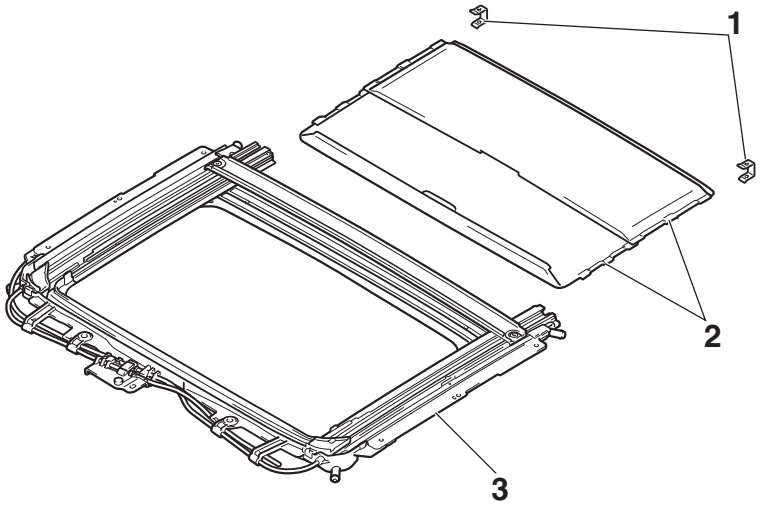

DISASSEMBLY STEPS

1. SUNROOF SUNSHADE STOPPER

DISASSEMBLY STEPS

2. SUNROOF SUNSHADE
3. SUNROOF HOUSING

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CONVERTIBLE TOP <ECLIPSE SPYDER>

GENERAL DESCRIPTION

M1421000100262

The convertible top can be opened/closed by means of electric power and hydraulic power. For safety, the convertible top control module disables opening and closing of the convertible top in response to signals from the vehicle speed sensor when the vehicle speed exceeds 3 km/h (1.9 mph).

⚠ WARNING

- ***Do not turn the ignition switch "LOCK" (OFF) position when the topstack is at the position other than fully closed position and fully open position. The hydraulic pressure will not be maintained if ignition switch is turn to "LOCK" (OFF) position, it may become the situation that topstack moves suddenly and gets injured serious.***
- ***When the topstack needs to be at the position other than fully closed position and fully open position during service, hold the topstack to prevent it from moving.***

CONVERTIBLE TOP DIAGNOSIS <WATER LEAK>

INTRODUCTION TO ELECTRIC CONVERTIBLE TOP DIAGNOSIS

M1426203900051

The electric convertible top is controlled by the convertible top control module. When the convertible top switch is operated at vehicle speeds under 3 km/h (1.9 mph), all the door windows automatically lower and then all the quarter windows. After all the door windows and the quarter windows are fully lowered, the top stack drive motor operates to open or close the electric convertible top.

NOTE: The door windows will automatically lower during the operation of the convertible top switch even when the lock switch of the power window main switch is locked.

ELECTRIC CONVERTIBLE TOP DIAGNOSTIC TROUBLESHOOTING STRATEGY

M1426204000051

Use these steps to plan your diagnostic strategy. If you follow them carefully, you will be sure that you have exhausted most of the possible ways to find the electric convertible top fault.

1. Gather information from customer.
2. Verify that the condition described by the customer exists. (Refer to Water Leak Check .)
3. Find the malfunction by following the Symptom Chart.
4. Verify malfunction is eliminated.

WATER LEAK JUDGING STANDARD

Water leak is judged when all the states that show below under the condition which carries out Water leak check cannot be held.

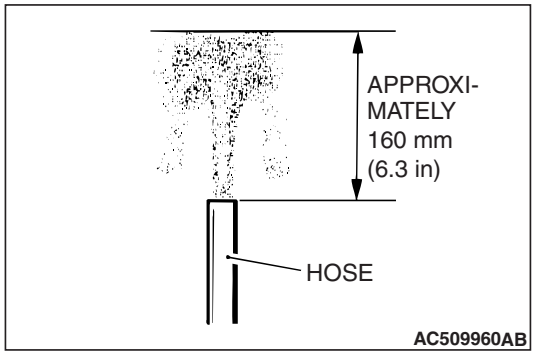
- Waterdrop drips from the part where Door window glass and quater window glass were put together, or the water of the width of about 3 mm (0.12 inch) flows on the glass surface by the side of the car interior of a room. (However, when you wiped and intercept this stream by the fingertip, it is a stream to the extent that returning to the original stream takes the time for 3 seconds or more.)
- Water leak from places other than the above.

WATER LEAK CHECK

Gather information from the customer to confirm the water leak, and follow the procedure below to perform the water leak check.

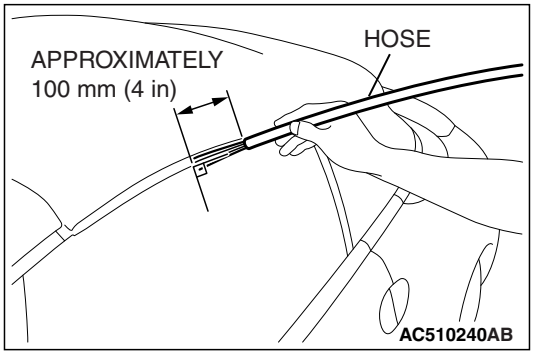
1. Using a dry cloth, wipe out water drops on the weatherstrips and windows.

2. Check the presence of breakage, damage, deformation, or creep on the weatherstrips. If there is any failure, replace the relevant weatherstrips.
3. Turn off the air conditioning switch.
4. Fully close the convertible top, doors, all door windows, and quarter windows.

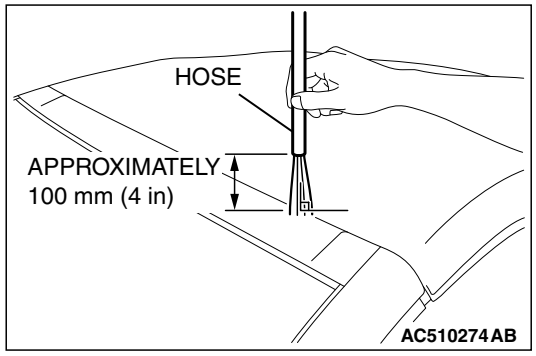


NOTE: Use a 16-mm (0.63 inches) diameter hose for check.

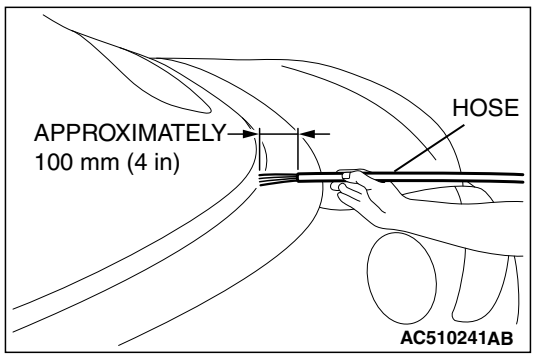
5. Using tap water, adjust the water pressure so that the height of water sprayed from the hose is approximately 160 mm (6.3 inches) with the end of the hose facing up.
6. Spray water on the convertible top weatherstrip at a perpendicular angle, approximately 100 mm (4 inches) away from the weatherstrip. Spray fully around the convertible top twice, checking for water leaks.



7. Spray water between the cowl top heater weatherstrip and the roof rail front outer panel weatherstrip, at a perpendicular angle approximately 100 mm (4 inches) from the weatherstrip. Spray fully around the area twice checking for water leaks.



8. Spray water between the rear 5-bow weatherstrip and the panel garnish, approximately 100 mm (4 inches) from the weatherstrip. Spray fully around the area twice checking for water leaks.



SYMPTOM CHART

M1426204100058

Symptoms	Inspection procedure	Reference page
Water leak through the weatherstrip or its junction	1	P.42-130
Water leak through the weatherstrip	2	P.42-132
Water leak at the door delta window glass	3	P.42-134
Water leak through the header area	4	P.42-135
Water leak between the quarter window glass and the door window glass	5	P.42-135
Water leak through the rear 5-bow area	6	P.42-137

SYMPTOM PROCEDURES <WATER LEAK>

INSPECTION PROCEDURE 1: Water leak through the weatherstrip or its junction

TROUBLESHOOTING HINTS

- Improper aligned door
- Improper adjusted window glass
- Improper positioned weatherstrip holder

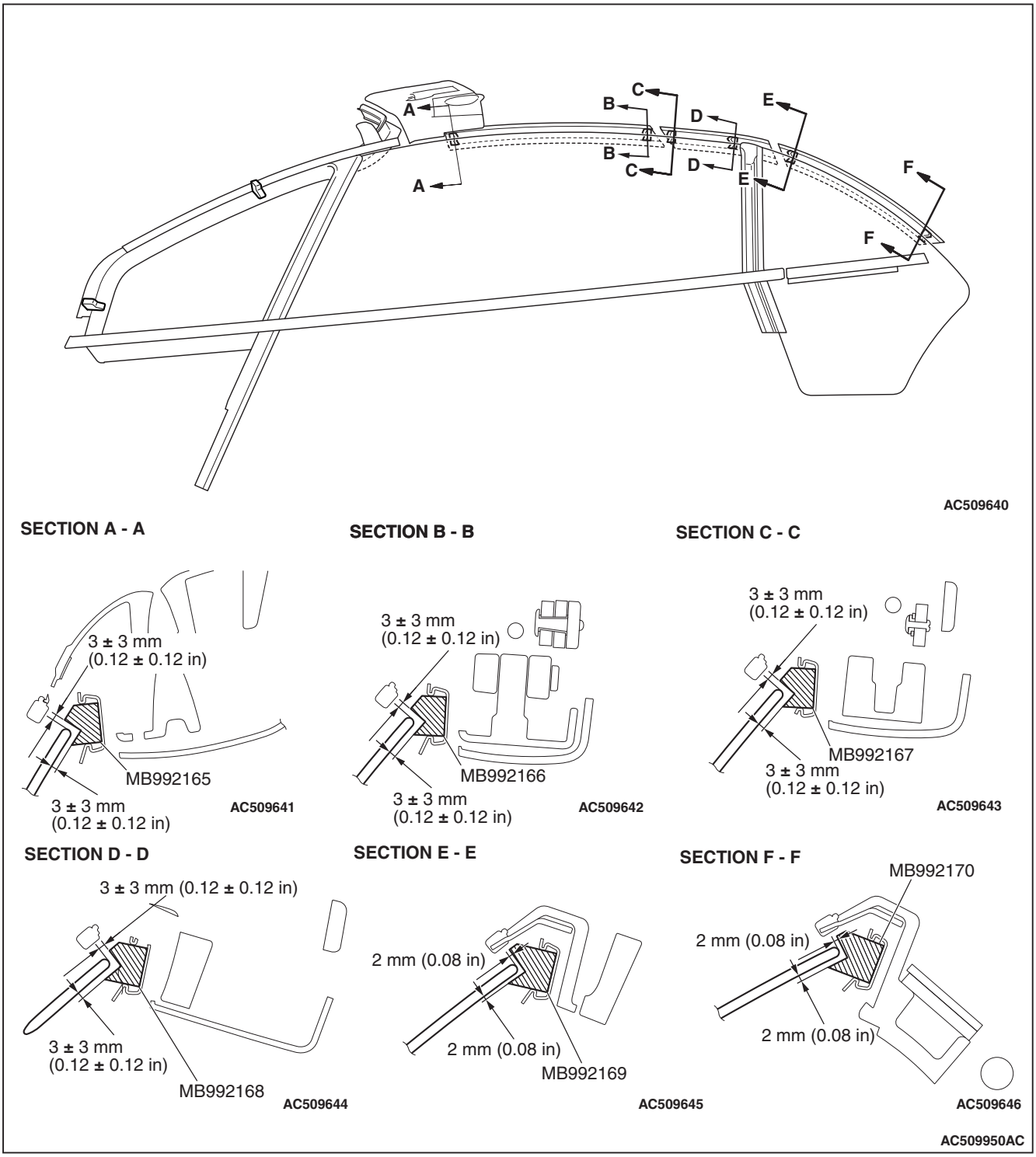
⚠ CAUTION

The weatherstrip holder has been adjusted at factory. Do not make an adjustment unless absolutely necessary.

DIAGNOSIS

STEP 1. Check the fit between the door window glass and the weatherstrip holder, and between the quarter glass and weatherstrip holder.

1.Remove the weatherstrip from the weatherstrip holder.



NOTE: Special tools is installed in the weatherstrip installation hole of weatherstrip holder. (MB992165 to MB992167 and MB992169 to MB992170)

NOTE: It installs it so that special tool (MB992168) may hit the part in the corner of door glass.

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NOTE: The tape is sticking adjusted up and down and evenly in respect where special tools and weatherstrip holder are hit disregarding it when there is a space between special tools and weatherstrip holder.

2.Set the special tools MB992165 to MB992170 on the weatherstrip holders, and check the clearance from each window glass.

Q: Is the clearance between each window glass and the weatherstrip holder normal?

YES : Go to Step 2.

NO : Adjust the glass to achieve correct clearance, then perform the water leak check again. (Refer to P.42-128.)

STEP 2. Check the weatherstrip fit.

Check visually the weatherstrip fit where the water leak occurs.

Q: Is the weatherstrip fit normal?

YES : Go to Step 3.

NO : Loosen the weatherstrip mounting bolt and adjust the weatherstrip holder to achieve proper fit.(Refer to P.42-245.)

STEP 3. Check the weatherstrip contact with the window glass.

Check the contact state of the weatherstrip with the window glass.

Q: Is the contact of the weatherstrip with the window glass insufficient (poor seal) all around the glass?

YES : Check the door alignment and then adjust the window glass.(Refer to P.42-245.)

NO : Go to Step 4.

STEP 4. Check the weatherstrip contact with the window glass.

Check the contact state of the weatherstrip with the window glass.

Q: Is the contact of the weatherstrip with the window glass insufficient (poor seal) in some areas?

YES : Adjust the weatherstrip holder.(Refer to P.42-245.)

NO : Return to Step 1.

INSPECTION PROCEDURE 2: Water leak through the weatherstrip

TROUBLESHOOTING HINTS

- Improper aligned door
- Improper adjusted window glass
- Improper positioned weatherstrip holder

⚠ CAUTION

The weatherstrip holder has been adjusted at factory. Do not make an adjustment unless absolutely necessary.

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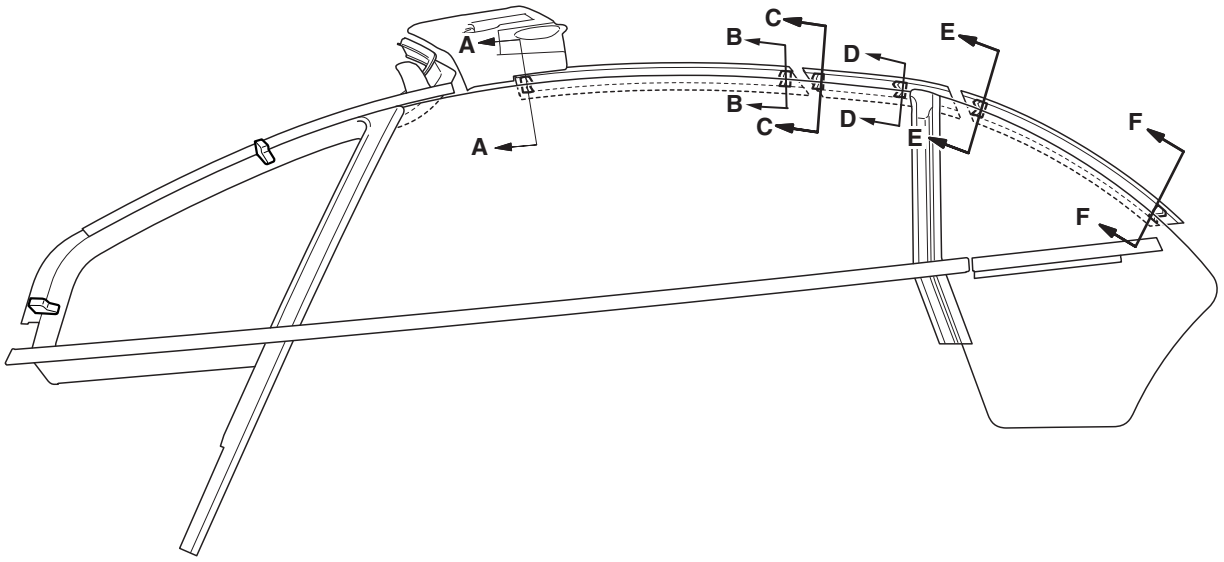
DIAGNOSIS

STEP 1. Check the fit between the door window glass and the weatherstrip holder, and between the quarter glass and weatherstrip holder.

1.Remove the weatherstrip from the weatherstrip holder.



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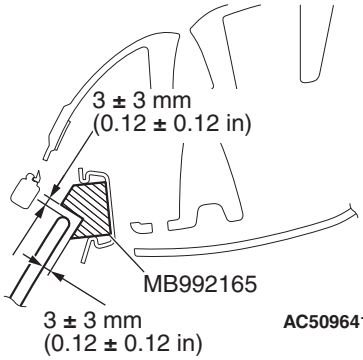

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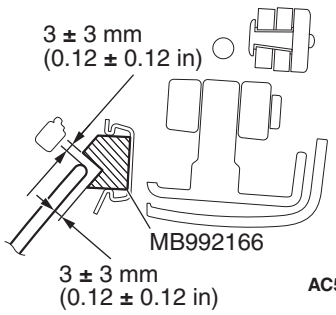
SECTION B - B



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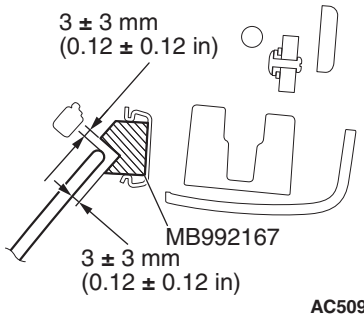
SECTION C - C



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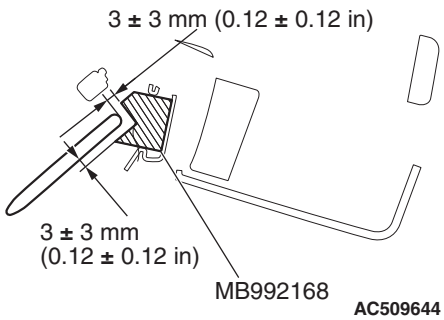
SECTION D - D



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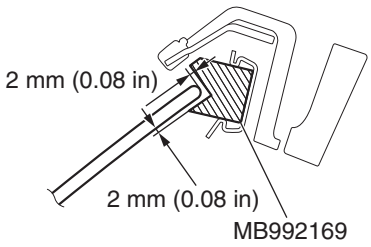
SECTION E - E



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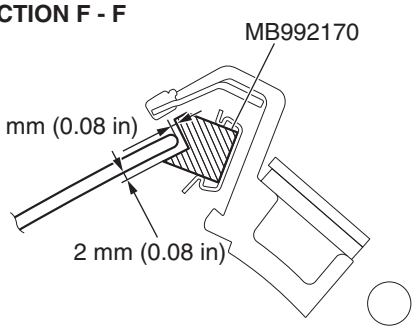
SECTION F - F



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AC509950AC

NOTE: Special tools is installed in the weatherstrip installation hole of weatherstrip holder. (MB992165 to MB992167

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and MB992169 to MB992170)

NOTE: It installs it so that special tool (MB992168) may hit the part in the corner of door glass.

NOTE: The tape is sticking adjusted up and down and evenly in respect where special tools and weatherstrip holder are hit disregarding it when there is a space between special tools and weatherstrip holder.

2.Set the special tools MB992165 to MB992170 on the weatherstrip holders, and check the clearance from each window glass.

Q: Is the clearance between each glass and the weatherstrip holder normal?

YES : Go to Step 2.

NO : Adjust the glass to achieve correct clearance, then perform the water leak check again.(Refer to P.42-128.)

STEP 2. Check the weatherstrip contact with the window glass.

Check the contact state of the weatherstrip with the window glass.

Q: Is the contact of the weatherstrip with the window glass insufficient (poor seal) all around the glass?

YES : Check the door alignment and then adjust the window glass.(Refer to P.42-245.)

NO : Go to Step 3.

STEP 3. Check the weatherstrip contact with the window glass.

Check the contact state of the weatherstrip with the window glass.

Q: Is the contact of the weatherstrip with the window glass insufficient (poor seal) in some areas?

YES : Adjust the weatherstrip holder.(Refer to P.42-245.)

NO : Return to Step 1.

INSPECTION PROCEDURE 3: Water leak at the door delta window glass

TROUBLESHOOTING HINTS

- Improper aligned door
- Improper adjusted window glass

DIAGNOSIS

STEP 1. Check the contact of the weatherstrip with the window glass.

Q: Is the contact of the weatherstrip with the window glass insufficient (poor seal)?

YES : Align the door.(Refer to P.42-245.)

NO : Go to Step 2.

STEP 2. Check the contact of the weatherstrip with the window glass.

Q: Is the contact of the weatherstrip with the window glass insufficient (poor seal)?
YES : Adjust the delta window glass of the door.(Refer to P.42-245.)
NO : Return to Step 1.

INSPECTION PROCEDURE 4: Water leak through the header area

TROUBLESHOOTING HINTS

- Improper adjusted J hook

DIAGNOSIS

STEP 1. Check the lfit (height and flushress) between the roof rail front outer panel and the cowl top header area.

Q: Is there improper fit between the roof rail front outer panel and the cowl top header area?
YES : Adjust the J hook. (Refer to P.42-260).
NO : Go to Step 2.

STEP 2. Check the latch operating force.

Q: Does the latch operate smoothly?
YES : Return to Step 1.
NO : Adjust the J hook. (Refer to P.42-260).

INSPECTION PROCEDURE 5: Water leak between the quarter window glass and the door window glass

TROUBLESHOOTING HINTS

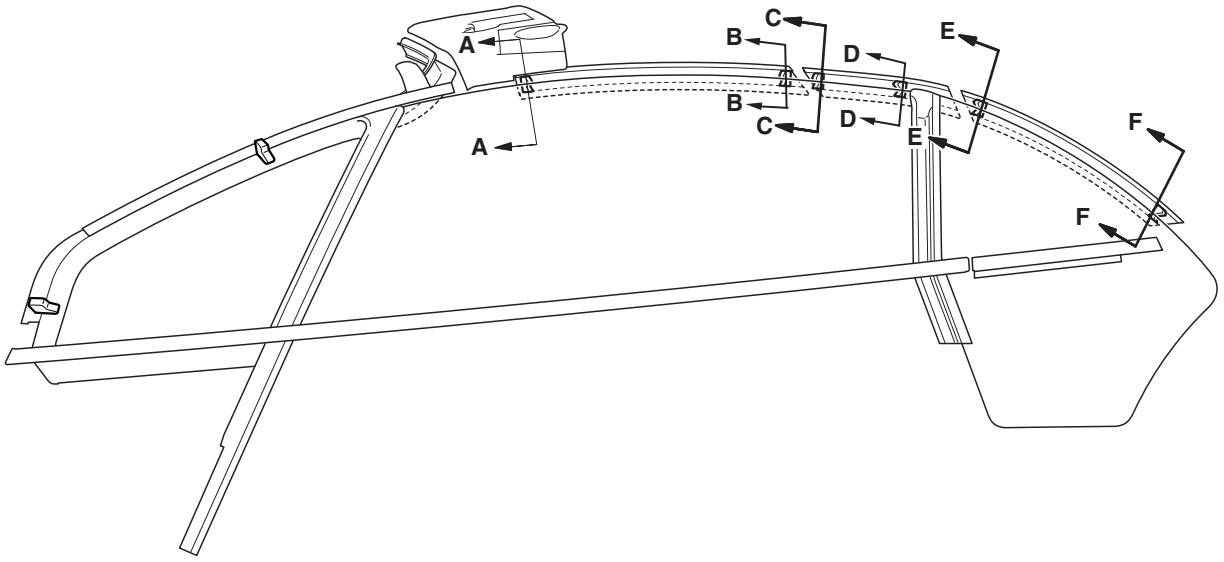
- Improper adjusted door window glass

⚠ CAUTION
The weatherstrip holder has been adjusted at factory. Do not make an adjustment unless absolutely necessary.

DIAGNOSIS

STEP 1. Check the fit between the door window glass and the weatherstrip holder, and between the quarter glass and weatherstrip holder.

1.Remove the weatherstrip from the weatherstrip holder.



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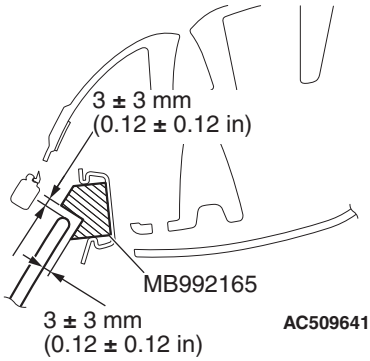

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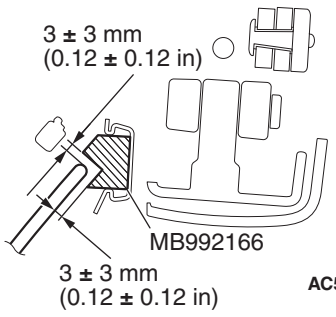

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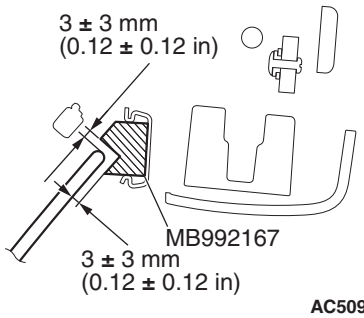
SECTION C - C



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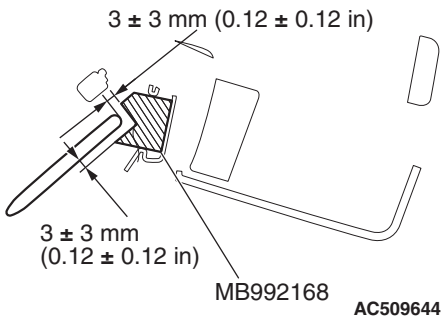

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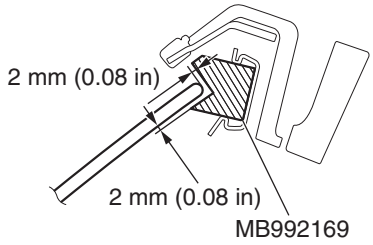
SECTION E - E



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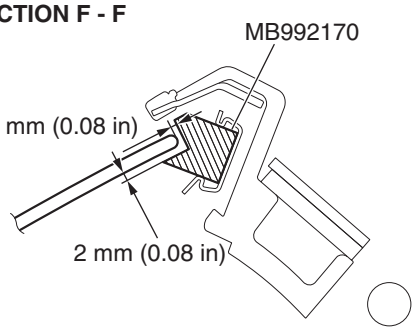
SECTION F - F



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NOTE: Special tools is installed in the weatherstrip installation hole of weatherstrip holder. (MB992165 to MB992167 and MB992169 to MB992170)

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NOTE: It installs it so that special tool (MB992168) may hit the part in the corner of door glass.

NOTE: The tape is sticking adjusted up and down and evenly in respect where special tools and weatherstrip holder are hit disregarding it when there is a space between special tools and weatherstrip holder.

2.Set the special tools MB992165 to MB992170 on the weatherstrip holders, and check the clearance from each window glass.

Q: Is the clearance between each glass and the weatherstrip holder normal?

YES : Go to Step 2.
NO : Adjust the glass to achieve proper clearance, then perform the water leak check again.(Refer to P.42-128.)

STEP 2. Check the alignment between the door window glass and the quarter window glass.

Q: Is the alignment between the door window glass and the quarter window glass normal?

YES : Go to Step 3.
NO : Align the door window glass and the quarter window glass.(Refer to P.42-245.)

STEP 3. Check the quarter window glass weatherstrip.

Q: Is the quarter window glass weatherstrip damaged?

YES : Replace the quarter window glass.
NO : Return to Step 1.

INSPECTION PROCEDURE 6: Water leak through the rear 5-bow area

TROUBLESHOOTING HINTS

- Improper adjusted rear 5-bow

⚠ CAUTION
The weatherstrip holder has been adjusted at factory. Do not make an adjustment unless absolutely necessary.

DIAGNOSIS

STEP 1. Check the tonneau cover.

Q: Is the tonneau cover deformed?

YES : Replace the tonneau cover.
NO : Go to Step 2.

STEP 2. Check the contact between the tonneau cover and the rear 5-bow.

Q: Is the rear 5-bow pressed against the tonneau cover securely?

YES : Return to Step 1.

NO : Adjust the rear 5-bow in the direction where the tonneau cover is pressed. (Refer to P.42-245.)

CONVERTIBLE TOP DIAGNOSIS <OIL PRESSURE SYSTEM AND/OR ELECTRICAL SYSTEM>

INTRODUCTION TO ELECTRIC CONVERTIBLE TOP DIAGNOSIS

M1426203900062

The electric convertible top is controlled by the convertible top control module. When the convertible top switch is operated at the vehicle speed of less than 3 km/h (1.9 mph), all the door windows automatically lower and then all the quarter windows. After all the door windows and the quarter windows are fully lowered, the top stack drive motor operates to open or close the electric convertible top.

NOTE: The door windows will automatically lower during the operation of the convertible top switch even when the lock switch of the power window main switch is locked.
If the following types of symptom occur, there may be a fault.

- *The electric convertible top does not open or close.*

ELECTRIC CONVERTIBLE TOP DIAGNOSTIC TROUBLESHOOTING STRATEGY

M1426204000062

Use these steps to plan your diagnostic strategy. If you follow them carefully, you will be sure that you have exhausted most of the possible ways to find the electric convertIble top fault.

1. Gather information from customer.
2. Verify that the condition described by the customer exists.
3. Find the malfunction by following the Symptom Chart.
4. Verify malfunction is eliminated.

DIAGNOSTIC TROUBLE CODE CHART

M1426213100034

⚠ CAUTION

During diagnosis, a DTC associated with other system may be set when the ignition switch is turned "ON" position with connector(s) disconnected. On completion, confirm all systems for DTC(s). If DTC(s) are sets, erase them all.

Use the following chart to develop proper diagnostic strategy.

DTC No.	Description	Reference page
B1301	5bow sensor: Up&Down=ON	P.42-140
B1302	5bow sensor: L=ON/R=OFF	P.42-148
B1303	5bow sensor: L=OFF/R=ON	
B1304	Topstack POS.sensor: Up&Down=ON	P.42-153
B1305	TN panel close sensor: L=ON/R=OFF	P.42-156
B1306	TN panel close sensor: L=OFF/R=ON	P.42-158
B1307	TN latch close sensor: L=ON/R=OFF	P.42-161
B1308	TN latch close sensor: L=OFF/R=ON	P.42-163
B1309	Timeout error (5bow up)	P.42-166
B1310	Timeout error (TN latch open)	P.42-171

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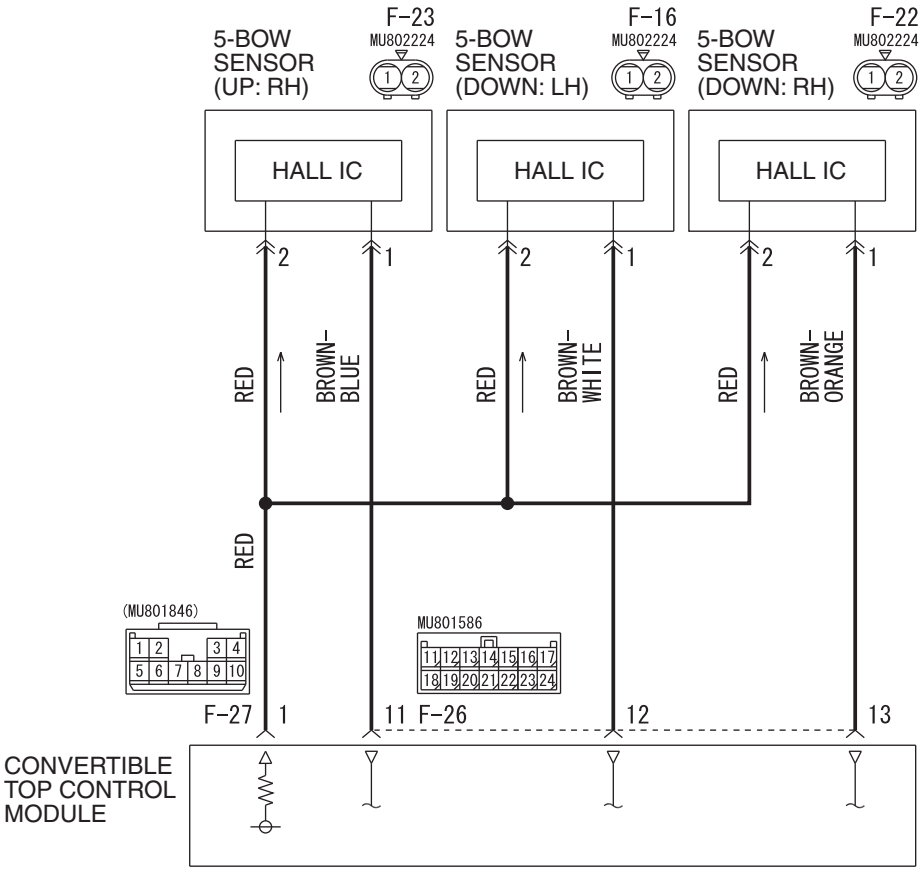
DTC No.	Description	Reference page
B1311	TN panel sensor: Close&Open=ON	P.42-175
B1312	Timeout error (TN panel open)	P.42-178
B1313	Timeout error (Topstack down)	P.42-181
B1314	Timeout error (TN panel close)	P.42-186
B1315	Timeout error (TN latch close)	P.42-189
B1316	Timeout error (Topstack up)	P.42-192
B1317	Timeout error (5bow down)	P.42-197
B1319	Pump motor protection timeout	P.42-200
B1320	Quarter window cancel current	P.42-201
B1321	Comm.error (DR P/W ECU)	P.42-206
B1322	Comm.error (AS P/W ECU)	P.42-208
B1323	IG1 SW input	P.42-211
B1324	Driver side P/W ECU	P.42-213
B1325	Assist side P/W ECU	P.42-216
B1326	TN latch sensor: Close&Open=ON	P.42-219
B1340	EEPROM error	P.42-221
U1073	Bus off	P.42-222

NOTE: TN: Abbreviation of tonneau

DIAGNOSTIC TROUBLE CODE PROCEDURES

DTC B1301 5bow sensor: Up&Down=ON

5-bow Sensor Circuit



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CIRCUIT OPERATION

- The convertible top control module judges the convertible top operating state based on the signals from the sensors and switches.
- 5-bow sensor is the one of those sensors and the convertible top control module mounts 5-bow sensor (UP), 5-bow sensor (DOWN) (RH), and 5-bow sensor (DOWN) (LH). They output the following signals to the convertible top control module according to the open/close state of the convertible top.

Item	Convertible top state		
	Close	Operating	Open
5-bow sensor (UP)	OFF	OFF	ON
5-bow sensor (DOWN) (RH)	ON	OFF	OFF
5-bow sensor (DOWN) (LH)	ON	OFF	OFF

TSB Revision

DTC SET CONDITION

This DTC is set as a 5-bow sensor error when the 5-bow sensor (UP) and the 5-bow sensor (DOWN) output ON signal simultaneously which is unavailable in the normal condition.
In addition, if ON failure occurs in either LH or RH 5-bow sensor (DOWN), this DTC is also set. In this case, because the signals from the LH and RH sensors are different, DTC B1302 or B1303 is set at the same time.

TROUBLESHOOTING HINTS

- ON failure of 5-bow sensor (UP) (including defective sensor power supply line or signal line)
- ON failure of 5-bow sensor (DOWN) (including defective sensor power supply line or signal line)
- Malfunction of the convertible top control module

NOTE: If ON failure occurs in both the LH and RH 5-bow sensors (DOWN), the power line for the 5-bow sensor may be defective.

DIAGNOSIS

Required Special Tool

- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB992006: Extra fine probe

STEP 1. Using scan tool MB991958, read diagnostic trouble code.

Q: Are DTC B1302 and/or B1303 set?

YES : Perform the troubleshooting for DTC B1302/B1303 (Refer to P.42-148).
NO : Go to Step 2.

STEP 2. Check the state of the convertible top.

Q: Is the convertible top closed?

YES (closed) : Go to Step 3.
NO (open) : Close the convertible top. Then go to Step 3.

STEP 3. Using scan tool MB991958, check data list.

Use scan tool MB991958 to check the following service data (Refer to P.42-236).

- Item 09: 5-bow sensor up

  OK: "OFF" appears.

Q: Is the check result satisfactory?

YES : Go to Step 8.
NO : Go to Step 4.

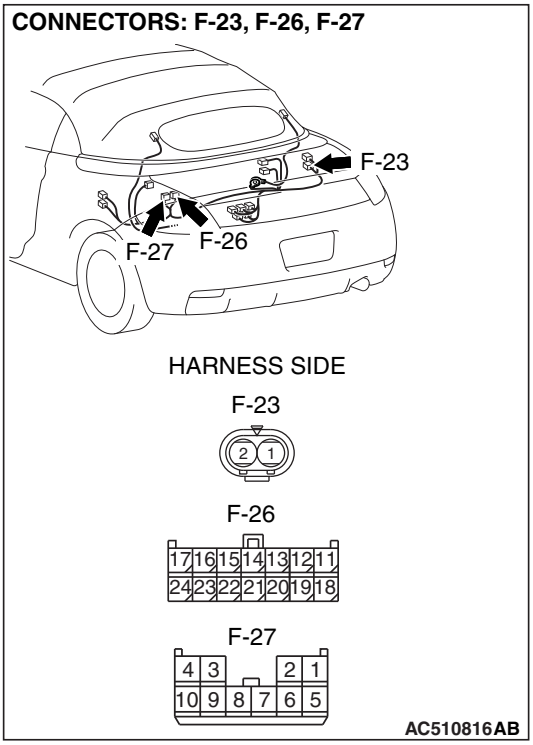
STEP 4. Check convertible top control module connector F-26, F-27 and 5-bow sensor (UP) connector F-23 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 5.

NO : Repair or replace the damaged component(s).

CONNECTORS: F-23, F-26, F-27



STEP 5. Check the harness between convertible top control module connector F-27 (terminal 1) and 5-bow sensor (UP) connector F-23 (terminal 2), between convertible top control module connector F-26 (terminal 11) and 5-bow sensor (UP) connector F-23 (terminal 1).

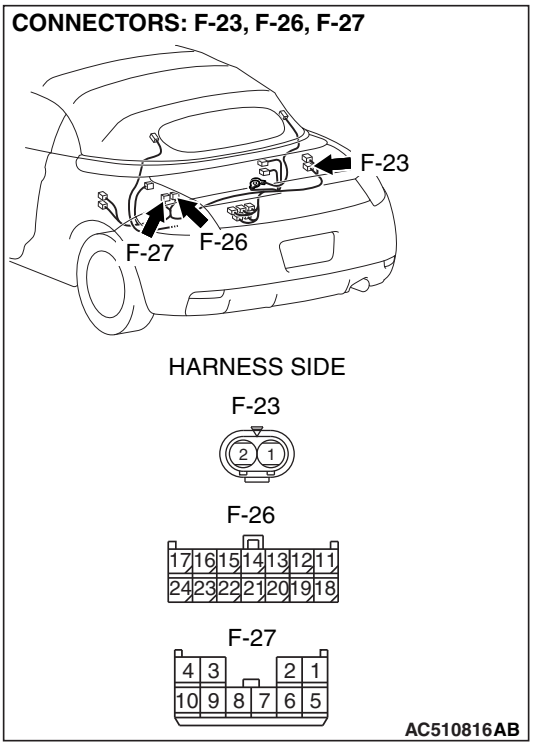
Check the power supply line and signal line of the 5-bow sensor (UP) for open or short circuit.

Q: Is the check result satisfactory?

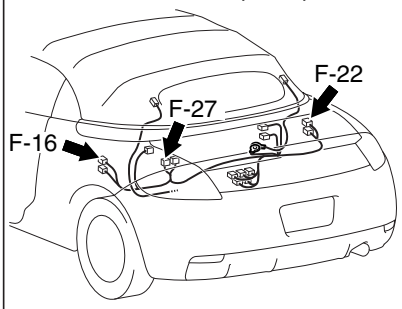
YES : Go to Step 6.

NO : Repair the harness wire.

CONNECTORS: F-23, F-26, F-27



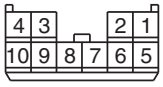
CONNECTORS: F-16, F-22, F-27



HARNESS SIDE

F-16,22

F-27



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STEP 6. Check the harness between convertible top control module connector F-27 (terminal 1) and 5-bow sensor (DOWN) (LH) connector F-16 (terminal 2), and between convertible top control module connector F-27 (terminal 1) and 5-bow sensor (DOWN) (RH) connector F-22 (terminal 2)

- Check the power supply line of the 5-bow sensor (DOWN) for short circuit.
- Check the power supply line and signal line of the 5-bow sensor (UP) for open or short circuit.

Q: Is the check result satisfactory?

YES : Replace the 5-bow sensor (UP). Then go to Step 7.
NO : Repair the harness wire.

STEP 7. Using scan tool MB991958, check data list.

Use scan tool MB991958 to check the following service data (Refer to P.42-236).

- Item 09: 5-bow sensor up

OK: "OFF" appears.

Q: Is the check result satisfactory?

YES : The procedure is complete.
NO : Replace the convertible top control module.

STEP 8. Check the convertible top operation.

Q: Is the opening operation of the convertible top normal?

YES : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).
NO : Go to Step 9.

STEP 9. Using scan tool MB991958, check data list.
Use scan tool MB991958 to check the following service data (Refer to P.42-236).
- Item 10: 5-bow sensor down (left)
- Item 11: 5-bow sensor down (right)

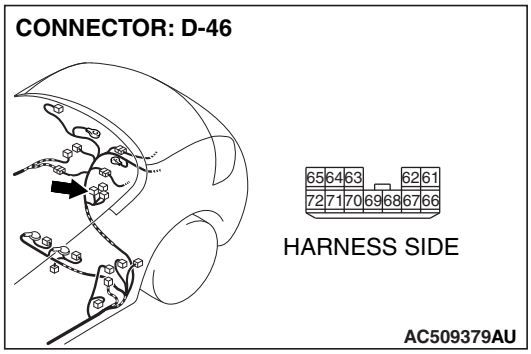
OK: "OFF" appears.

Q: Is the check result satisfactory?

YES : Go to Step 17.
NO (Item 10 or 11: ON) : Perform the troubleshooting for DTC B1302/B1303 (Refer to P.42-148).
NO (Both item 10 and 11: ON) : Go to Step 10.

STEP 10. Check convertible top control module connector D-46 for loose, corroded or damaged terminals, or terminals pushed back in the connector.
Q: Is the check result satisfactory?

YES : Go to Step 11.
NO : Repair or replace the damaged component(s).



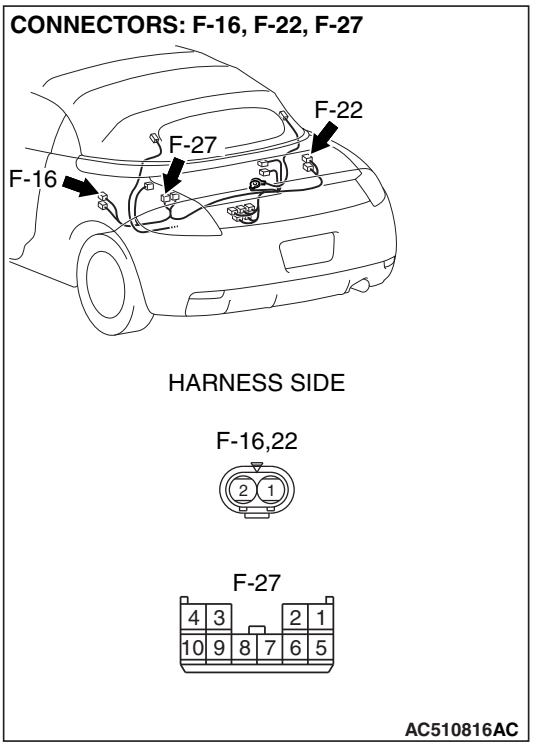
STEP 11. Check the harness between convertible top control module connector F-27 (terminal 1) and 5-bow sensor (DOWN) (LH) connector F-16 (terminal 2), and. between convertible top control module connector F-27 (terminal 1) and 5-bow sensor (DOWN) (RH) connector F-22 (terminal 2)

Check the power supply line of the 5-bow sensor (DOWN) for open circuit.

Q: Is the check result satisfactory?

YES : Go to Step 12.

NO : Repair the harness wire.

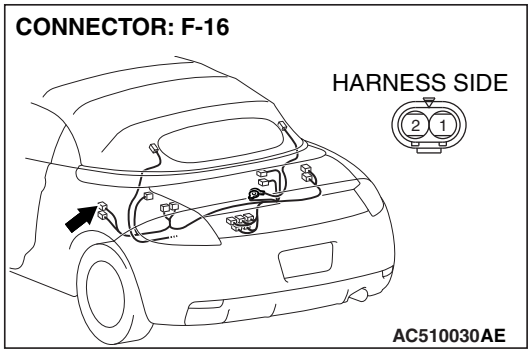


STEP 12. Check 5-bow sensor (DOWN) (LH) connector F-16 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

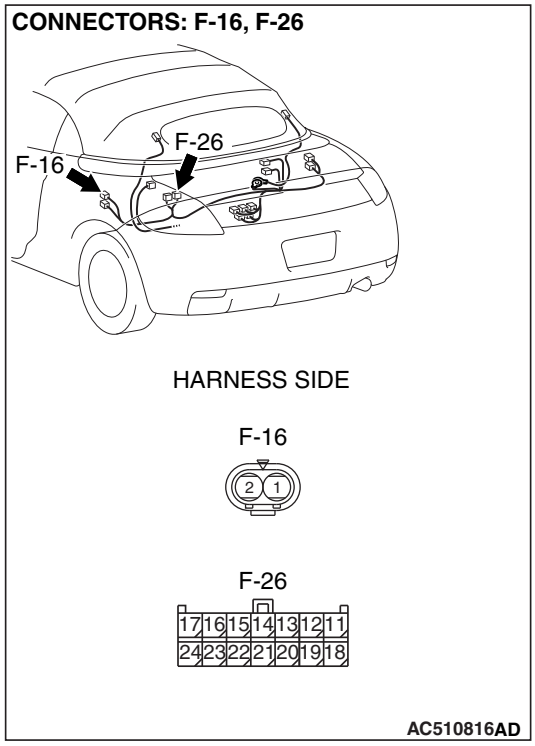
YES : Go to Step 13.

NO : Repair or replace the damaged component(s). Then go to Step 14.



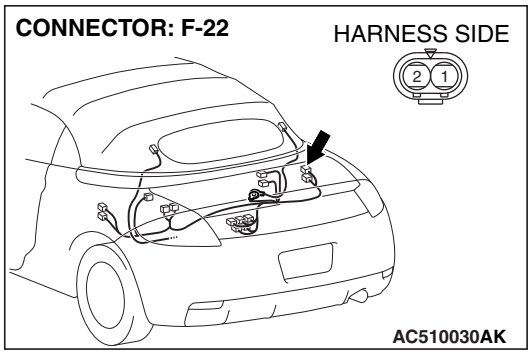
STEP 13. Check the harness between convertible top control module connector F-26 (terminal 12) and 5-bow sensor (DOWN) (LH) connector F-16 (terminal 1).
Q: Is the check result satisfactory?

YES : Replace the 5-bow sensor (DOWN) (LH). Then go to Step 14.
NO : Repair the harness wire. Then go to Step 14.

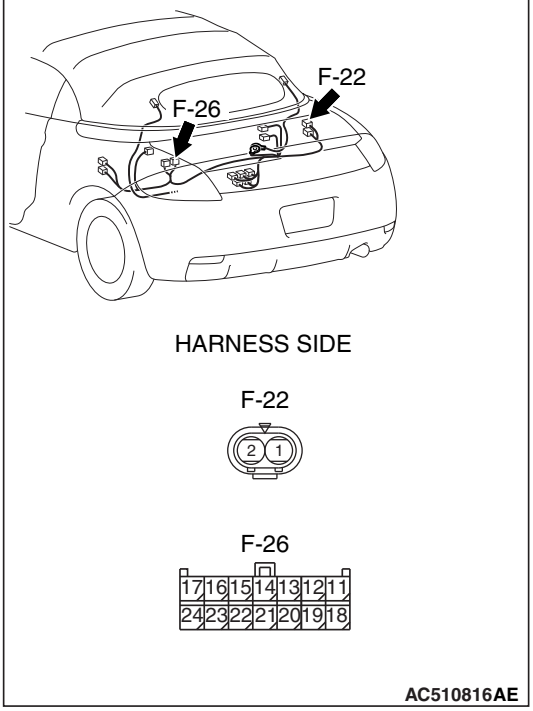


STEP 14. Check 5-bow sensor (DOWN) (RH) connector F-22 for loose, corroded or damaged terminals, or terminals pushed back in the connector.
Q: Is the check result satisfactory?

YES : Go to Step 15.
NO : Repair or replace the damaged component(s). Then go to Step 16.



CONNECTORS: F-22, F-26



STEP 15. Check the harness between convertible top control module connector F-26 (terminal 13) and 5-bow sensor (DOWN) (RH) connector F-22 (terminal 1).

Q: Is the check result satisfactory?

YES : Replace the 5-bow sensor (DOWN) (LH). Then go to Step 16.

NO : Repair the harness wire. Then go to Step 16.

STEP 16. Using scan tool MB991958, check data list.

Use scan tool MB991958 to check the following service data (Refer to P.42-236).

- Item 10: 5-bow sensor down (left)
- Item 11: 5-bow sensor down (right)

OK: "OFF" appears.

Q: Is the check result satisfactory?

YES : The procedure is complete.

NO (Item 10 or 11: ON) : Perform the troubleshooting for DTC B1302/B1303 (Refer to P.42-148).

NO (Both item 10 and 11: ON) : Replace the convertible top control module.

STEP 17. Recheck the DTC.

Q: Is DTC B1301 set?

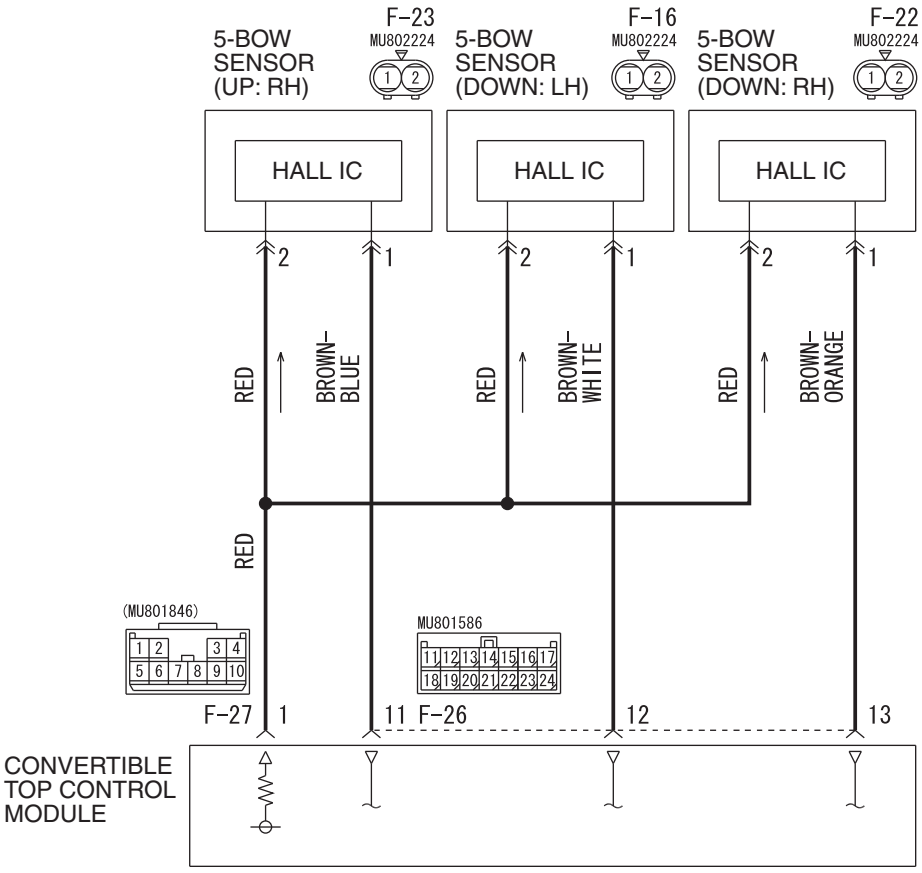
YES : Replace the convertible top control module.

NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1302: 5bow sensor: L=ON/R=OFF
DTC B1303: 5bow sensor: L=OFF/R=ON

⚠ CAUTION
These DTC can be set when the convertible top is opened or closed by manual operation while the ignition switch is ON position. Carry out the troubleshooting after conforming the presence or absence of manual operation.

5-bow Sensor Circuit



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CIRCUIT OPERATION

- The convertible top control module judges the convertible top operating state based on the signals from the sensors and switches.
- 5-bow sensor is the one of those sensors and the convertible top control module mounts 5-bow sensor (UP), 5-bow sensor (DOWN) (RH), and 5-bow sensor (DOWN) (LH). They output the following signals to the convertible top control module according to the open/close state of the convertible top.

Item	Convertible top state		
	Close	Operating	Open
5-bow sensor (UP)	OFF	OFF	ON
5-bow sensor (DOWN) (RH)	ON	OFF	OFF
5-bow sensor (DOWN) (LH)	ON	OFF	OFF

TSB Revision

DTC SET CONDITION

This DTC is set as a 5-bow sensor (DOWN) error if the LH and RH 5-bow sensors (DOWN) output different signals which are unavailable in the normal condition.

TROUBLESHOOTING HINTS

- ON or OFF failure of any 5-bow sensor (DOWN) (including defective sensor power supply line or signal line)
- Malfunction of the convertible top control module

DIAGNOSIS

Required Special Tool

- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB992006: Extra fine probe

STEP 1. Using scan tool MB991958, check data list.

(1) Close the convertible top.

(2) Use scan tool MB991958 to check the following service data (Refer to P.42-236).

- Item 10: 5-bow sensor down (left)
- Item 11: 5-bow sensor down (right)

OK: "ON" appears.

Q: Is the check result satisfactory?

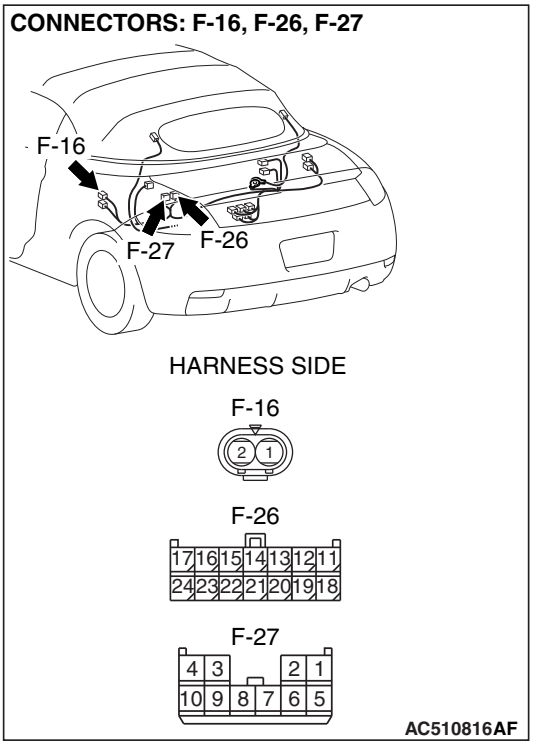
YES : Go to Step 8.
NO (Item 10: OFF) : Go to Step 2.
NO (Item 11: OFF) : Go to Step 5.

STEP 2. Check convertible top control module connector F-26, F-27 and 5-bow sensor (DOWN) (LH) connector F-16 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

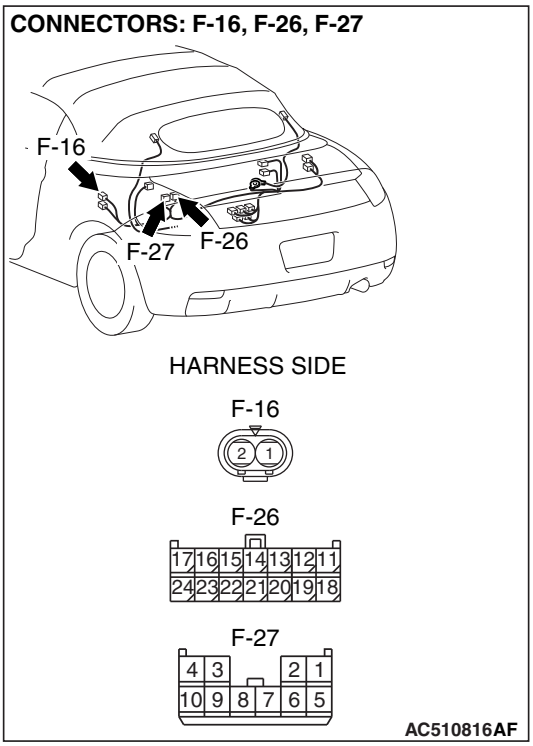
Q: Is the check result satisfactory?

YES : Go to Step 3.
NO : Repair or replace the damaged component(s).

CONNECTORS: F-16, F-26, F-27



CONNECTORS: F-16, F-26, F-27



STEP 3. Check the harness between convertible top control module connector F-27 (terminal 1) and 5-bow sensor (DOWN) (LH) connector F-16 (terminal 2), and between convertible top control module connector F-26 (terminal 12) and 5-bow sensor (DOWN) (LH) connector F-16 (terminal 1).

Check the power supply line and the signal line of the 5-bow sensor (DOWN) (LH) for open or short circuit.

Q: Is the check result satisfactory?

YES : Replace the 5-bow sensor (DOWN) (LH). Then go to Step 4.

NO : Repair the harness wire.

STEP 4. Using scan tool MB991958, check data list.

Use scan tool MB991958 to check the following service data (Refer to P.42-236).

- Item 10: 5-bow sensor down (left)

OK: "ON" appears.

Q: Is the check result satisfactory?

YES : The procedure is complete.

NO : Replace the convertible top control module.

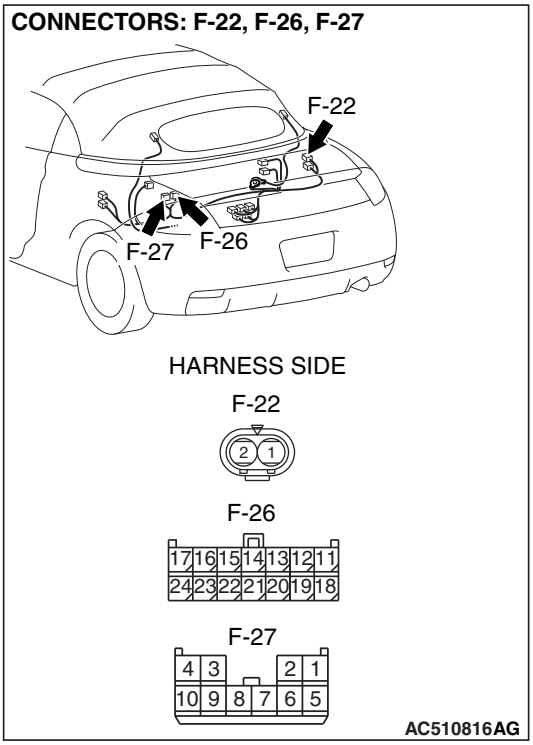
STEP 5. Check convertible top control module connector F-26, F-27 and 5-bow sensor (DOWN) (RH) connector F-22 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 6.

NO : Repair or replace the damaged component(s).

CONNECTORS: F-22, F-26, F-27



STEP 6. Check the harness between convertible top control module connector F-27 (terminal 1) and 5-bow sensor (DOWN) (RH) connector F-22 (terminal 2), and between convertible top control module connector F-26 (terminal 13) and 5-bow sensor (DOWN) (RH) connector F-22 (terminal 1).

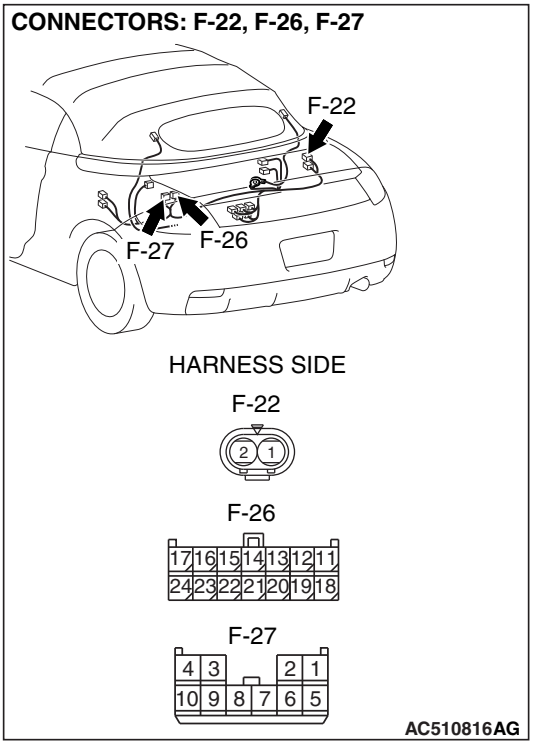
Check the power supply line and the signal line of the 5-bow sensor (DOWN) (RH) for open or short circuit.

Q: Is the check result satisfactory?

YES : Replace the 5-bow sensor (DOWN) (RH). Then go to Step 7.

NO : Repair the harness wire.

CONNECTORS: F-22, F-26, F-27



STEP 7. Using scan tool MB991958, check data list.

Use scan tool MB991958 to check the following service data (Refer to P.42-236).

- Item 11: 5-bow sensor down (right)

OK: "ON" appears.

Q: Is the check result satisfactory?

YES : The procedure is complete.

NO : Replace the convertible top control module.

STEP 8. Using scan tool MB991958, check data list.

(1) Close the convertible top.

(2) Use scan tool MB991958 to check the following service data (Refer to P.42-236).

- Item 10: 5-bow sensor down (left)
- Item 11: 5-bow sensor down (right)

OK: "OFF" appears.

Q: Is the check result satisfactory?

YES : Go to Step 10.

NO (Item 10: ON) : Replace the 5-bow sensor (DOWN) (LH). Then go to Step 9.

NO (Item 11: ON) : Replace the 5-bow sensor (DOWN) (RH). Then go to Step 9.

STEP 9. Using scan tool MB991958, check data list.

Use scan tool MB991958 to check the following service data (Refer to P.42-236).

- Item 10: 5-bow sensor down (left)
- Item 11: 5-bow sensor down (right)

OK: "OFF" appears.

Q: Is the check result satisfactory?

YES : The procedure is complete.

NO : Replace the convertible top control module.

STEP 10. Recheck the DTC.

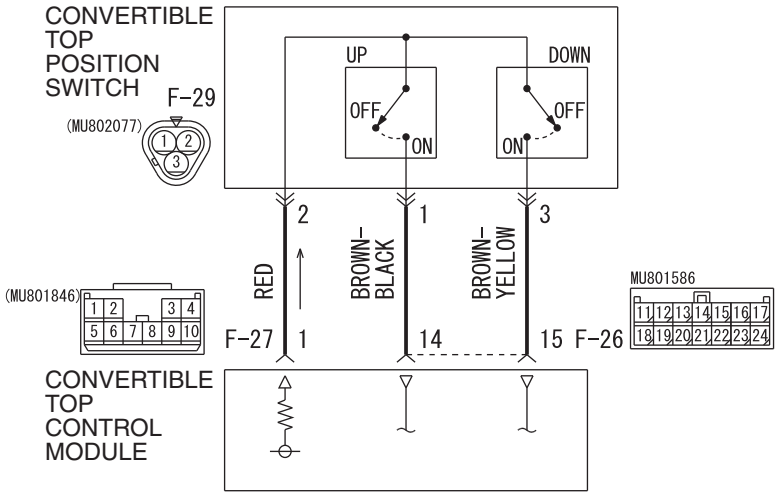
Q: Is DTC B1302 or B1303 set?

YES : Replace the convertible top control module.

NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1304: Top stack POS.sensor: Up&Down=ON

Convertible Top Position Switch Circuit



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CIRCUIT OPERATION

- The convertible top control module judges the convertible top operating state based on the signals from the sensors and switches.
- The convertible top position switch is the one of those switches. Signals from the UP and DOWN switches are input through different circuits and output to the convertible top control module according to the opening state of the convertible top.

Item	Convertible top state		
	Close	Operating	Open
UP switch	OFF	OFF	ON
DOWN switch	ON	OFF	OFF

DTC SET CONDITION

When the signals from both the UP and DOWN switches indicate "ON", this DTC is set as a convertible top switch error.

TROUBLESHOOTING HINTS

- Seizure of the UP or DOWN switch of the convertible top position switch
- Short circuit between the UP or DOWN switch signal lines of the convertible top position switch
- Malfunction of the convertible top control module

DIAGNOSIS

Required Special Tool

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

TSB Revision

STEP 1. Convertible top position switch check

Check for continuity at the convertible top position switch.

Switch position	Tester connection	Specified condition
UP switch OFF	1 – 2	No continuity
UP switch ON		Continuity exists. (2 Ω or less)
DOWN switch OFF 2 – 3	2 – 3	No continuity
DOWN switch ON		Continuity exists. (2 Ω or less)

Q: Is the check result satisfactory?

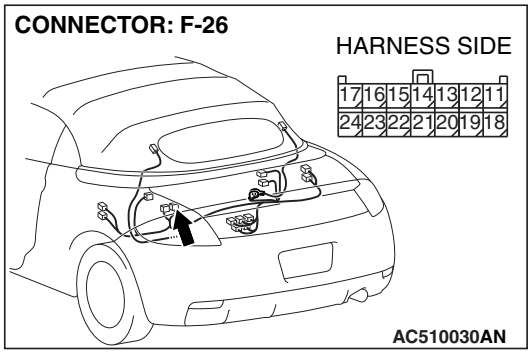
YES : Go to Step 2.

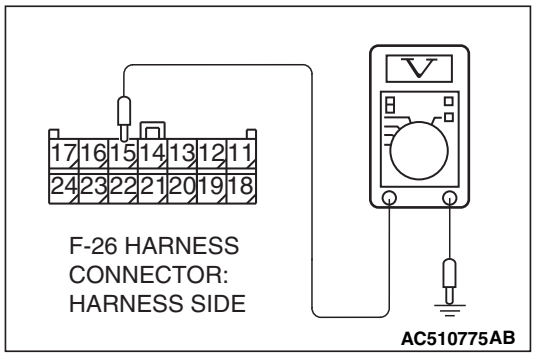
NO : Replace the convertible top position switch.

STEP 2. Measure the voltage at the convertible top control module connector.

(1) Close the convertible top.

(2) Disconnect convertible top control module connector F-26, and measure at the wiring harness side.





(3) Measure the voltage between terminal 15 and ground.

- The measured value should be 0 volt.

Q: Is the check result satisfactory?

YES : Go to Step 4.

NO : Go to Step 3.

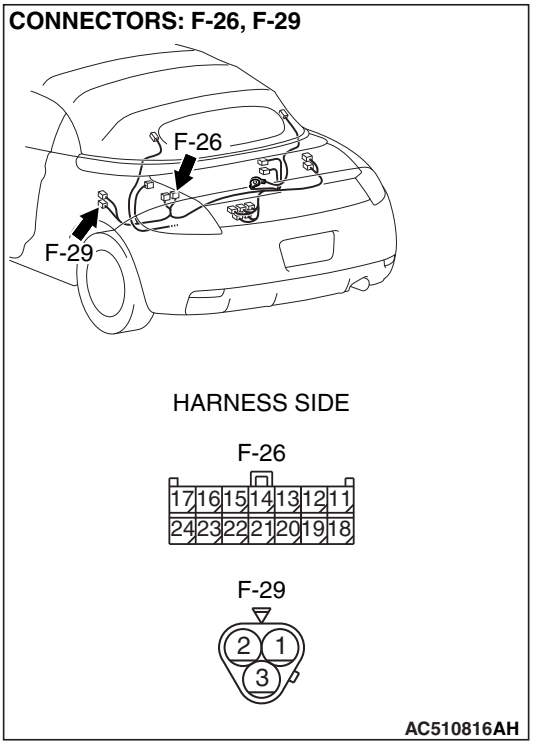
STEP 3. Check convertible top control module connector F-26 and convertible top position switch connector F-29 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Check the wiring harness between convertible top control module connector F-26 (terminal 14, 15) and convertible top position switch connector F-29 (terminal 1, 3). Repair as necessary.

NO : Repair or replace the damaged component(s).

CONNECTORS: F-26, F-29



STEP 4. Recheck the DTC.

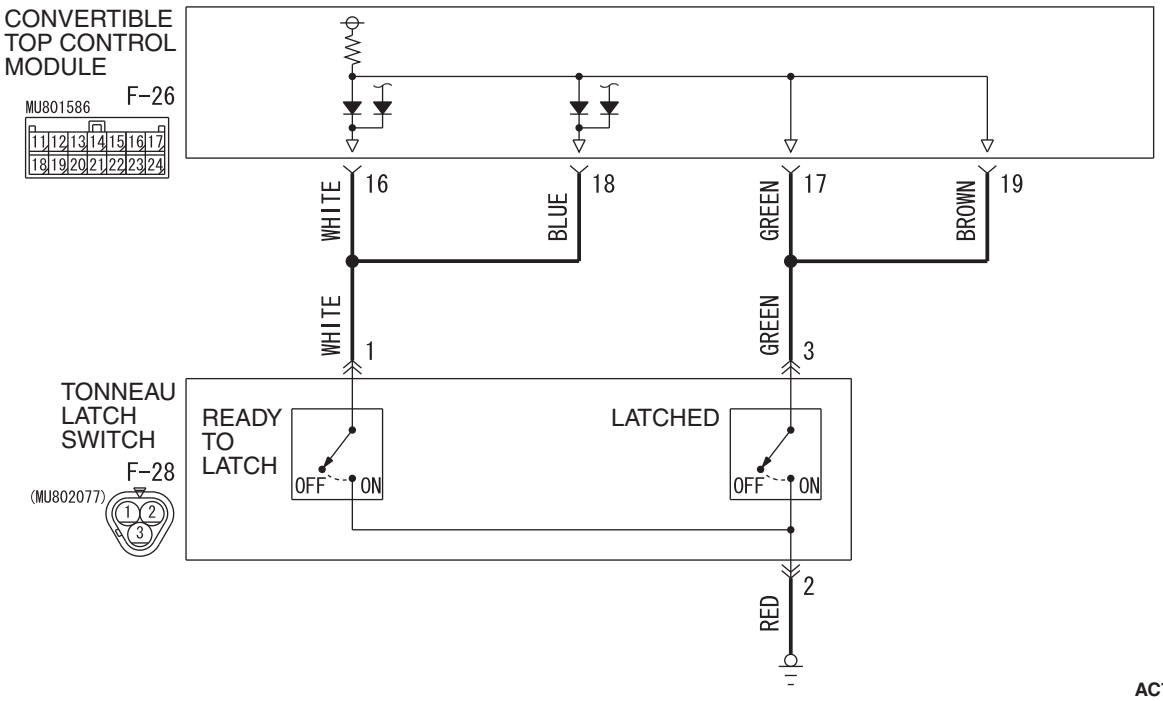
Q: Is DTC B1304 set?

YES : Replace the convertible top control module.

NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1305 TN panel close sensor: L=ON/R=OFF

Tonneau Latch Switch Circuit



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CIRCUIT OPERATION

- The convertible top control module judges the convertible top operating state based on the signals from the sensors and switches.
- The tonneau latch switch is the one of those switches and it consists of a tonneau latch switch (ready to latch) detecting the tonneau panel state and a tonneau latch switch (latched) detecting the tonneau latch state. Signals from the tonneau latch switch (ready to latch) and the tonneau latch switch (latched) are input through different circuits to the convertible top control module, and the following signals are output to the convertible top control module according to the opening state of the convertible top.

Item	Convertible top state						
	Close	Operating					Open
		Tonneau panel: Closed		Tonneau panel: Open	Tonneau panel: Closed		
		Tonneau latch: Closed	Tonneau latch: Open	Tonneau latch: Open	Tonneau latch: Open	Tonneau latch: Closed	
Tonneau latch switch (Ready to latch)	ON	ON	ON	OFF	ON	ON	ON
Tonneau latch switch (Latched)	ON	ON	OFF	OFF	OFF	ON	ON

TSB Revision

DTC SET CONDITION

When the tonneau latch switch (ready to latch) is OFF, if the signal of convertible top control module (terminal 16) ON and the signal of convertible top control module (terminal 18) OFF are input to the convertible top control module, this DTC is set as a harness error between the tonneau latch switch (ready to latch) (terminal 1) and the convertible top control module (terminal 16 or 18).

TROUBLESHOOTING HINTS

- Malfunction of the convertible top control module.
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector

DIAGNOSIS

Required Special Tools

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

STEP 1. Using scan tool MB991958, read diagnostic trouble code.

Q: Is DTC B1314 set?

YES : Perform troubleshooting for DTC B1314.
NO : Go to Step 2.

STEP 2. Using scan tool MB991958, check data list.

Use scan tool MB991958 to check the following service data (Refer to P.42-236).

- Item 15: Tonneau panel close sensor (LH)

  OK: "ON" appears.

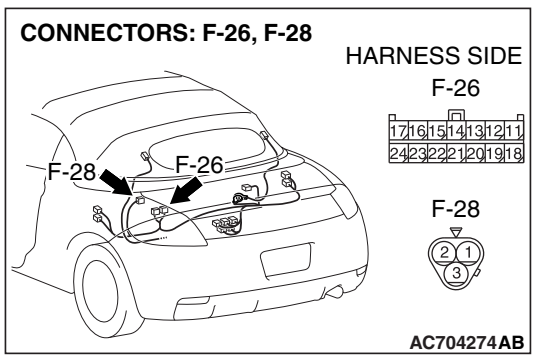
Q: Is the check result satisfactory?

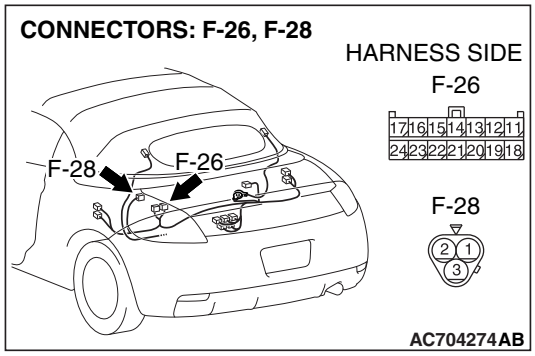
YES : Go to Step 5.
NO : Go to Step 3.

STEP 3. Check convertible top control module connector F-26 and Tonneau latch switch connector F-28 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 4.
NO : Repair or replace the damaged component(s).





STEP 4. Check the harness between convertible top control module connector F-26 (terminal 18) and Tonneau latch switch connector F-28 (terminal 1) or the harness between convertible top control module connector F-26 (terminal 16) and Tonneau latch switch connector F-28 (terminal 1).

Check the wiring harness for short circuit.

Q: Is the check result satisfactory?

YES : Go to Step 5.

NO : Repair the harness wire.

STEP 5. Recheck the DTC.

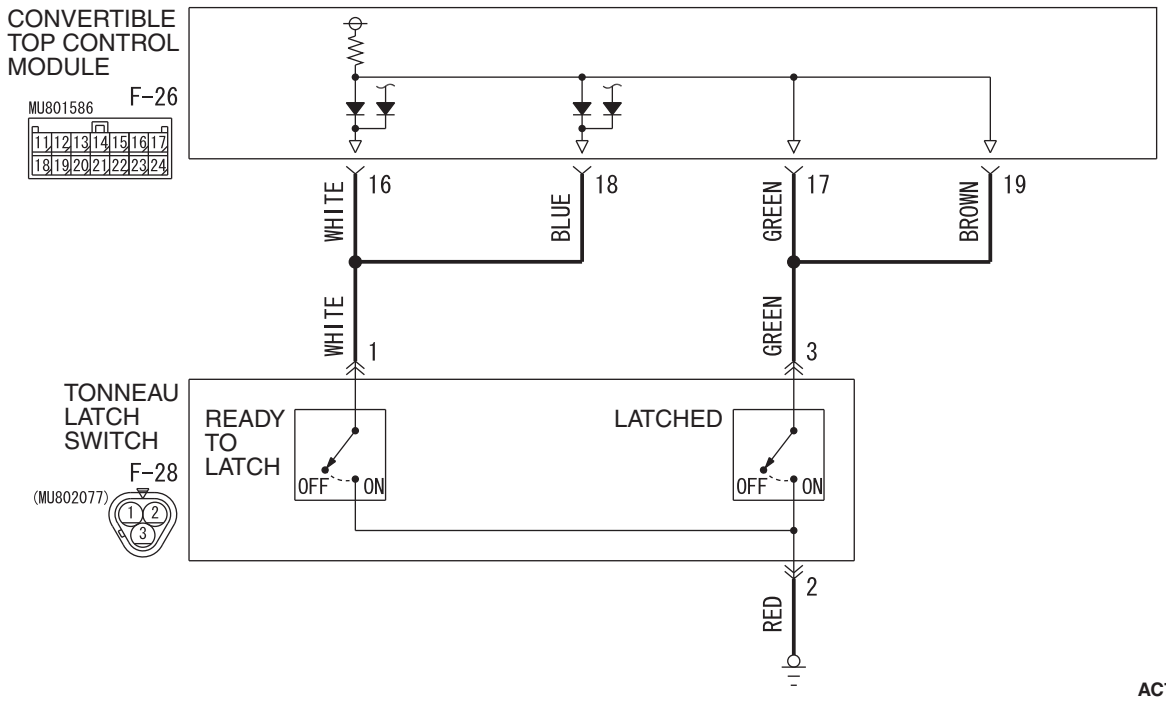
Q: Is DTC B1305 set?

YES : Replace the convertible top control module.

NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1306 TN panel close sensor: L=OFF/R=ON

Tonneau Latch Switch Circuit



TSB Revision

CIRCUIT OPERATION

- The convertible top control module judges the convertible top operating state based on the signals from the sensors and switches.
- The tonneau latch switch is the one of those switches and it consists of a tonneau latch switch (Ready to latch) detecting the tonneau panel state and a tonneau latch switch (Latched) detecting the tonneau latch state. Signals from the tonneau latch switch (Ready to latch) and the tonneau latch switch (Latched) are input through different circuits to the convertible top control module, and the following signals are output to the convertible top control module according to the opening state of the convertible top.

Item	Convertible top state						
	Close	Operating					Open
		Tonneau panel: Closed		Tonneau panel: Open	Tonneau panel: Closed		
		Tonneau latch: Closed	Tonneau latch: Open	Tonneau latch: Open	Tonneau latch: Open	Tonneau latch: Closed	
Tonneau latch switch (Ready to latch)	ON	ON	ON	OFF	ON	ON	ON
Tonneau latch switch (Latched)	ON	ON	OFF	OFF	OFF	ON	ON

DTC SET CONDITION

When the tonneau latch switch (ready to latch) is OFF, if the signal of convertible top control module (terminal 18) ON and the signal of convertible top control module (terminal 16) OFF are input to the convertible top control module, this DTC is set as a harness error between the tonneau latch switch (ready to latch) (terminal 1) and the convertible top control module (terminal 16 or 18).

TROUBLESHOOTING HINTS

- Malfunction of the convertible top control module.
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector

DIAGNOSIS

Required Special Tools

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

STEP 1. Using scan tool MB991958, read diagnostic trouble code.

Q: Is DTC B1314 set?

YES : Perform troubleshooting for DTC B1314.
NO : Go to Step 2.

STEP 2. Using scan tool MB991958, check data list.

Use scan tool MB991958 to check the following service data (Refer to P.42-236).

- Item 16: Tonneau panel close sensor (RH)

OK: "ON" appears.

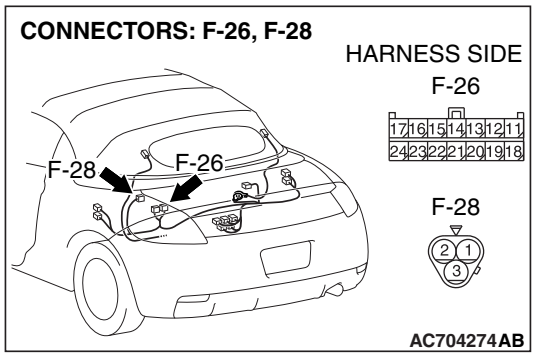
Q: Is the check result satisfactory?

YES : Go to Step 5.
NO : Go to Step 3.

STEP 3. Check convertible top control module connector F-26 and Tonneau latch switch connector F-28 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 4.
NO : Repair or replace the damaged component(s).

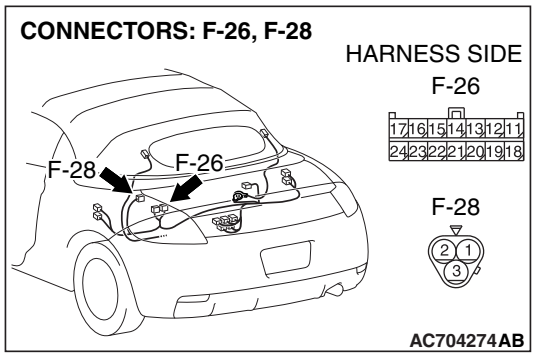


STEP 4. Check the harness between convertible top control module connector F-26 (terminal 16) and Tonneau latch switch connector F-28 (terminal 1) or the harness between convertible top control module connector F-26 (terminal 18) and Tonneau latch switch connector F-28 (terminal 1).

Check the wiring harness for open circuit.

Q: Is the check result satisfactory?

YES : Go to Step 5.
NO : Repair the harness wire.



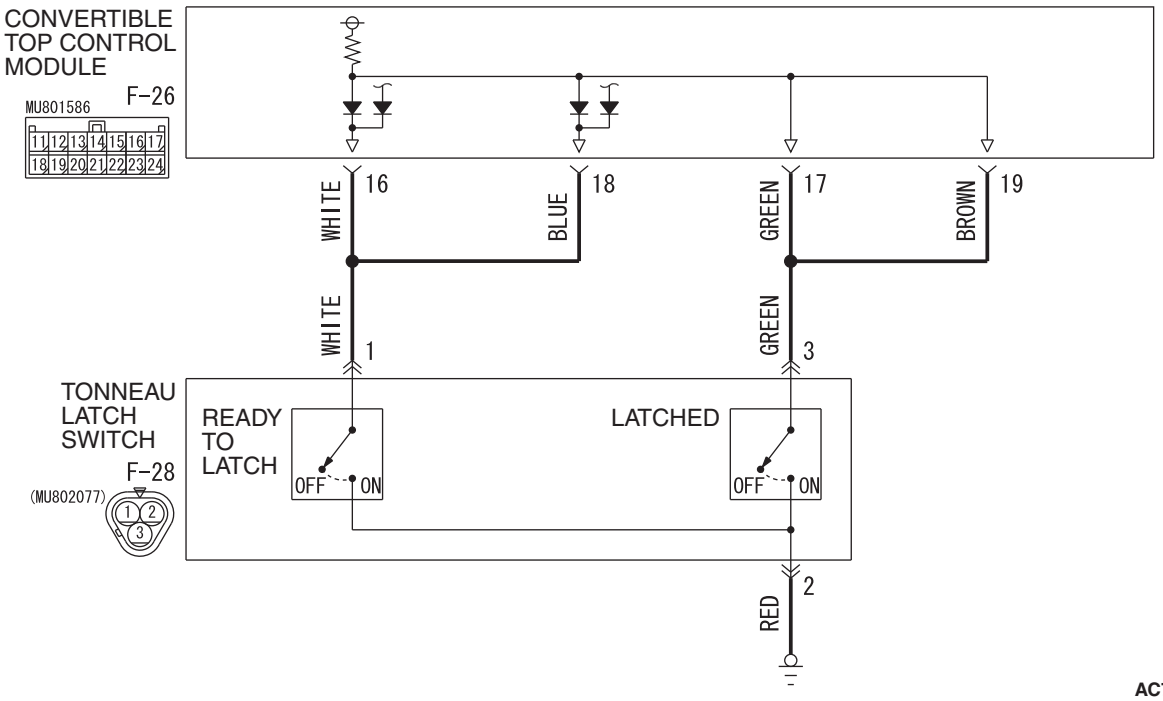
STEP 5. Recheck the DTC.

Q: Is DTC B1306 set?

YES : Replace the convertible top control module.
NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1307 TN latch close sensor: L=ON/R=OFF

Tonneau Latch Switch Circuit



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CIRCUIT OPERATION

- The convertible top control module judges the convertible top operating state based on the signals from the sensors and switches.
- The tonneau latch switch is the one of those switches and it consists of a tonneau latch switch (Ready to latch) detecting the tonneau panel state and a tonneau latch switch (Latched) detecting the tonneau latch state. Signals from the tonneau latch switch (Ready to latch) and the tonneau latch switch (Latched) are input through different circuits to the convertible top control module, and the following signals are output to the convertible top control module according to the opening state of the convertible top.

Item	Convertible top state						
	Close	Operating					Open
		Tonneau panel: Closed		Tonneau panel: Open	Tonneau panel: Closed		
		Tonneau latch: Closed	Tonneau latch: Open	Tonneau latch: Open	Tonneau latch: Open	Tonneau latch: Closed	
Tonneau latch switch (Ready to latch)	ON	ON	ON	OFF	ON	ON	ON
Tonneau latch switch (Latched)	ON	ON	OFF	OFF	OFF	ON	ON

TSB Revision

DTC SET CONDITION

When the tonneau latch switch (latched) is OFF, if the signal of convertible top control module (terminal 17) ON and the signal of convertible top control module (terminal 19) OFF are input to the convertible top control module, this DTC is set as a harness error between the tonneau latch switch (latched) (terminal 3) and the convertible top control module (terminal 17 or 19).

TROUBLESHOOTING HINTS

- Malfunction of the convertible top control module.
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector

DIAGNOSIS

Required Special Tools

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

STEP 1. Using scan tool MB991958, read diagnostic trouble code.

Q: Is DTC B1315 set?

YES : Perform troubleshooting for DTC B1315.
NO : Go to Step 2.

STEP 2. Using scan tool MB991958, check data list.

Use scan tool MB991958 to check the following service data (Refer to P.42-236).

- Item 17: Tonneau latch close sensor LH)

OK: "ON" appears.

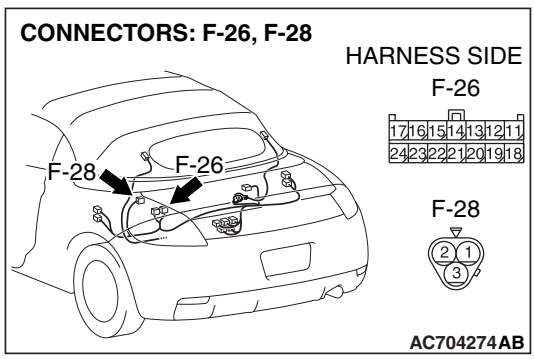
Q: Is the check result satisfactory?

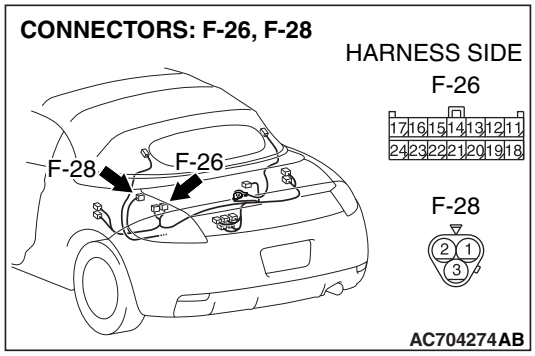
YES : Go to Step 5.
NO : Go to Step 3.

STEP 3. Check convertible top control module connector F-26 and Tonneau latch switch (LH) connector F-28 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 4.
NO : Repair or replace the damaged component(s).





STEP 4. Check the harness between convertible top control module connector F-26 (terminal 19) and Tonneau latch switch (LH) connector F-28 (terminal 3) or the harness between convertible top control module connector F-26 (terminal 17) and Tonneau latch switch (LH) connector F-28 (terminal 3).

Check the wiring harness for short circuit.

Q: Is the check result satisfactory?

YES : Go to Step 5.

NO : Repair the harness wire.

STEP 5. Recheck the DTC.

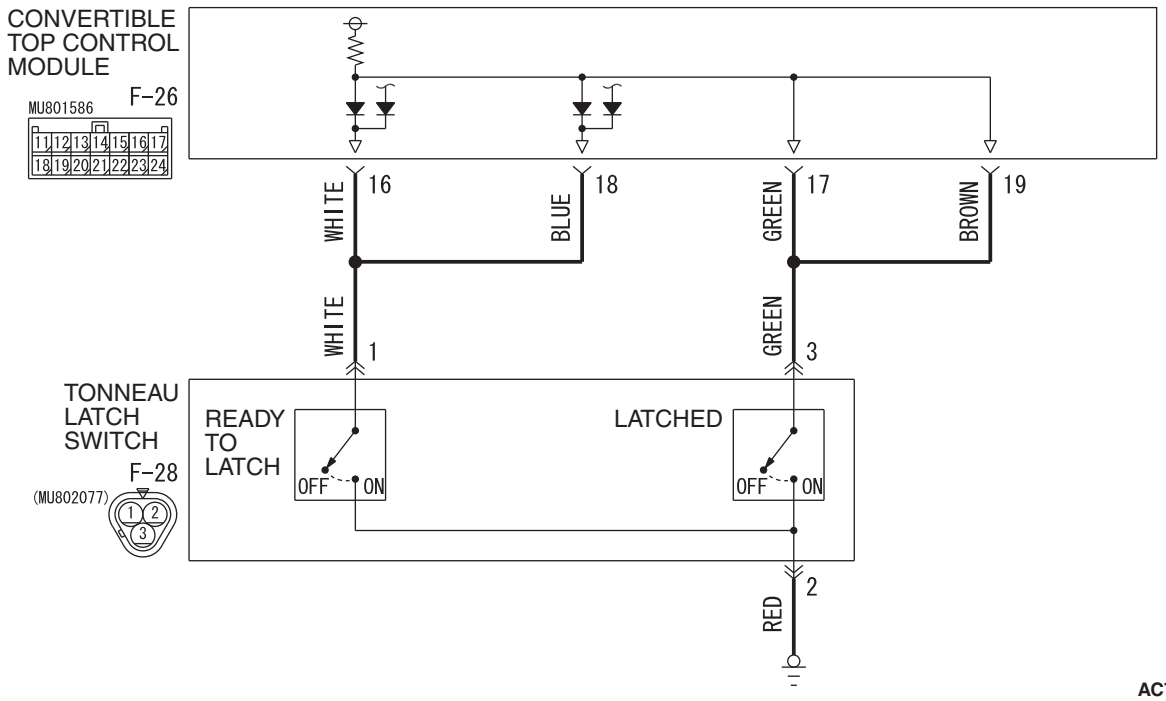
Q: Is DTC B1307 set?

YES : Replace the convertible top control module.

NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1308 TN latch close sensor: L=OFF/R=ON

Tonneau Latch Switch Circuit



TSB Revision

CIRCUIT OPERATION

- The convertible top control module judges the convertible top operating state based on the signals from the sensors and switches.
- The tonneau latch switch is the one of those switches and it consists of a tonneau latch switch (Ready to latch) detecting the tonneau panel state and a tonneau latch switch (Latched) detecting the tonneau latch state. Signals from the tonneau latch switch (Ready to latch) and the tonneau latch switch (Latched) are input through different circuits to the convertible top control module, and the following signals are output to the convertible top control module according to the opening state of the convertible top.

Item	Convertible top state						
	Close	Operating					Open
		Tonneau panel: Closed		Tonneau panel: Open	Tonneau panel: Closed		
		Tonneau latch: Closed	Tonneau latch: Open	Tonneau latch: Open	Tonneau latch: Open	Tonneau latch: Closed	
Tonneau latch switch (Ready to latch)	ON	ON	ON	OFF	ON	ON	ON
Tonneau latch switch (Latched)	ON	ON	OFF	OFF	OFF	ON	ON

DTC SET CONDITION

When the tonneau latch switch (latched) is OFF, if the signal of convertible top control module (terminal 19) ON and the signal of convertible top control module (terminal 17) OFF are input to the convertible top control module, this DTC is set as a harness error between the tonneau latch switch (latched) (terminal 3) and the convertible top control module (terminal 17 or 19).

TROUBLESHOOTING HINTS

- Malfunction of the convertible top control module.
- The wiring harness or connectors may have loose, corroded, or damaged terminals, or terminals pushed back in the connector

DIAGNOSIS

Required Special Tools

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

STEP 1. Using scan tool MB991958, read diagnostic trouble code.

Q: Is DTC B1315 set?

YES : Perform troubleshooting for DTC B1315.
NO : Go to Step 2.

STEP 2. Using scan tool MB991958, check data list.
Use scan tool MB991958 to check the following service data (Refer to P.42-236).
- Item 18: Tonneau latch close sensor (RH)

OK: "ON" appears.

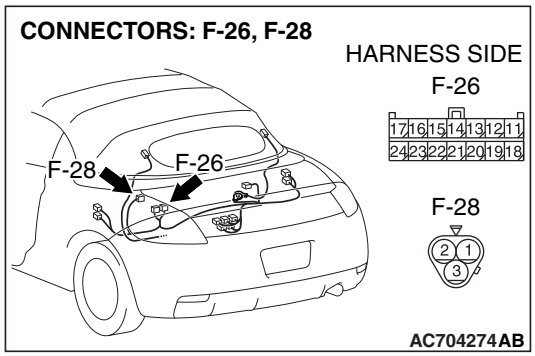
Q: Is the check result satisfactory?

YES : Go to Step 5.
NO : Go to Step 3.

STEP 3. Check convertible top control module connector F-26 and Tonneau latch switch (LH) connector F-28 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

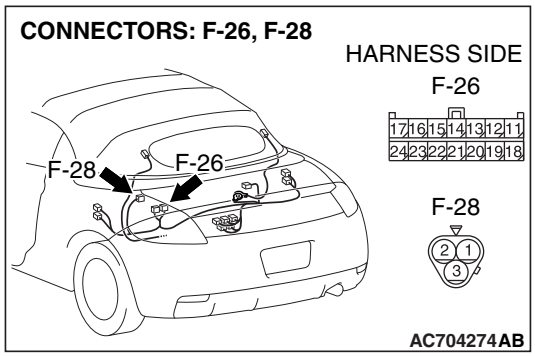
YES : Go to Step 4.
NO : Repair or replace the damaged component(s).



STEP 4. Check the harness between convertible top control module connector F-26 (terminal 19) and Tonneau latch switch (LH) connector F-28 (terminal 3) or the harness between convertible top control module connector F-26 (terminal 17) and Tonneau latch switch (LH) connector F-28 (terminal 3).
Check the wiring harness for open circuit.

Q: Is the check result satisfactory?

YES : Go to Step 5.
NO : Repair the harness wire.



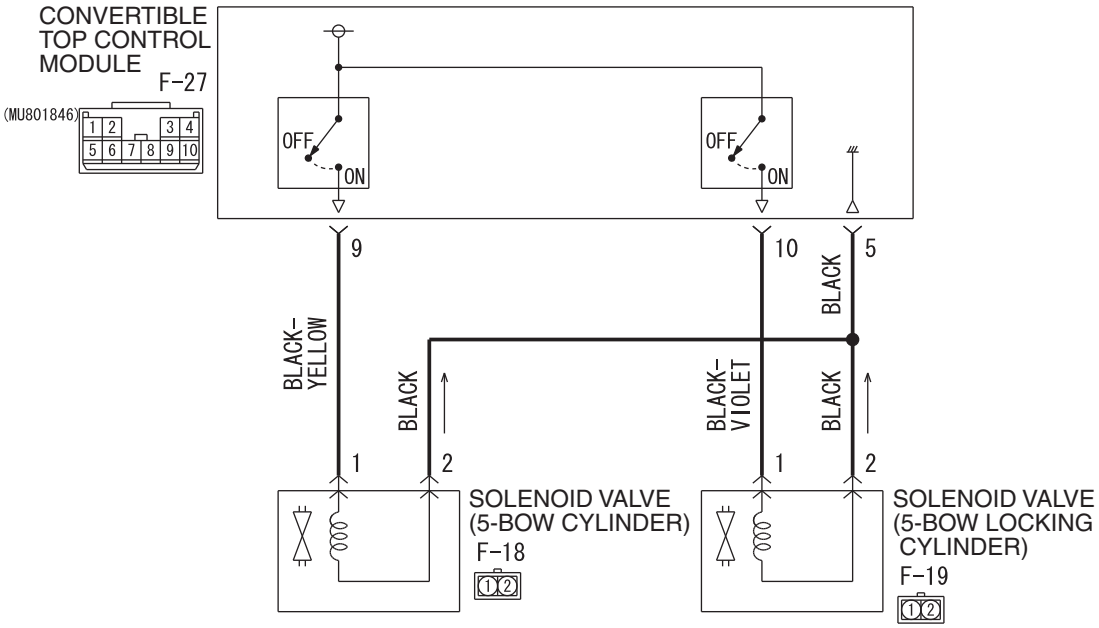
STEP 5. Recheck the DTC.

Q: Is DTC B1308 set?

YES : Replace the convertible top control module.
NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1309 Timeout error (5bow up)

Solenoid Valve(5-bow Locking Cylinder), Solenoid Valve(5-bow Cylinder) and 5-bow Sensor(UP) Circuit



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CIRCUIT OPERATION

When opening operation is performed, the convertible top control module drives the pump motor and at the same time applies current to the solenoid valve (5-bow locking cylinder) and the solenoid valve (5-bow cylinder) to control the hydraulic pressure to each power cylinder. As a result, the 5-bow rises. Then, when the 5-bow sensor (UP) is turned ON, this control is terminated.

DTC SET CONDITION

This DTC is set when the 5-bow sensor (UP) signal is not turned ON after the operation above persists for a specified period (approximately 10 seconds) when opening operation is performed.

TROUBLESHOOTING HINTS

- OFF failure of the 5-bow sensor (UP)
- Malfunction of the convertible top relay
- Malfunction of the convertible top pump motor
- Malfunction of the solenoid valve (5-bow locking cylinder)
- Malfunction of the solenoid valve (5-bow cylinder)
- Damaged harness wires and connectors
- Malfunction of hydraulic circuit
- Malfunction of the convertible top control module

DIAGNOSIS

Required Special Tool

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

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STEP 1. Check the convertible top operation.

When the convertible top is opened, check that the 5-bow rises and stops in approximately 5 seconds.

Q: Does the 5-bow rise when the convertible top is opened?

YES (stops in approximately 5 seconds.) : Go to Step 2.
YES (stops in approximately 10 seconds.) : If it takes approximately 10 seconds to stop, the operation is stopped by the convertible top control module fail-safe function. In this case, the hydraulic circuit may be defective. Check the hydraulic circuit.
NO : Go to Step 4.

STEP 2. Using scan tool MB991958, check data list.

(1) Open the convertible top.
(2) Use scan tool MB991958 to check the following service data (Refer to P.42-236).
- Item 09: 5-bow sensor up

OK: "ON" appears.

Q: Is the check result satisfactory?

YES : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).
NO : Replace the 5-bow sensor (UP). Then go to Step 3.

STEP 3. Using scan tool MB991958, check data list.

Use scan tool MB991958 to recheck the following service data (Refer to P.42-236).
- Item 09: 5-bow sensor up

OK: "ON" appears.

Q: Is the check result satisfactory?

YES : This diagnosis is complete.
NO : Replace the convertible top control module.

STEP 4. Check the pump motor operating sound.

Q: Is the pump motor operated when the convertible top is opened?

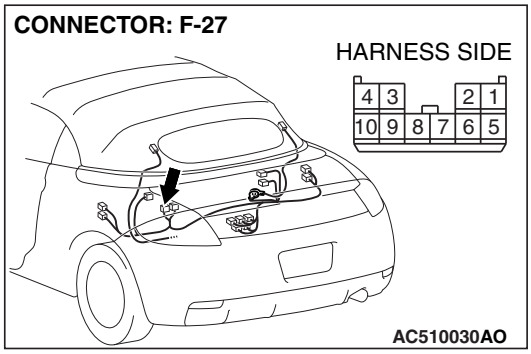
YES : Go to Step 5.
NO : Perform troubleshooting referring to "Symptom Procedure 2: Pump motor does not operate." (Refer to P.42-228.)

STEP 5. Check convertible top control module connector F-27 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

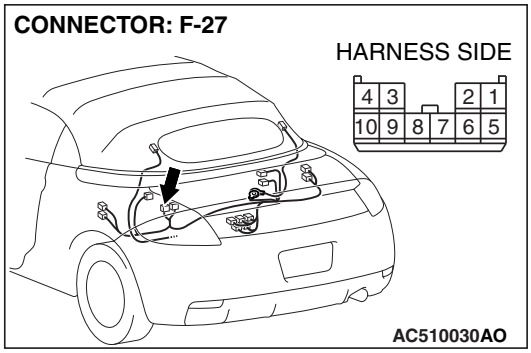
YES : Go to Step 6.

NO : Repair or replace the damaged component(s).



STEP 6. Measure the resistance at convertible top control module connector F-27.

(1) Disconnect convertible top control module connector F-27, and measure at the wiring harness side.



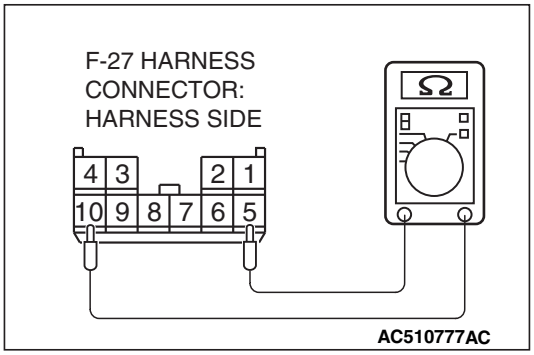
(2) Measure the resistance between terminal 5 and 10.

- The measured value should be 5 – 7 Ω.

Q: Is the check result satisfactory?

YES : Go to Step 9.

NO : Go to Step 7.

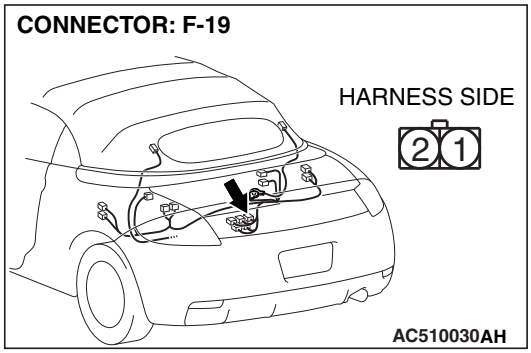


STEP 7. Check solenoid valve (5-bow locking cylinder) connector F-19 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 8.

NO : Repair or replace the damaged component(s).



STEP 8. Solenoid valve (5-bow locking cylinder) check

Check that the resistance value of the solenoid valve (5-bow locking cylinder) is within the standard value range.

Standard value: 5 – 7 Ω

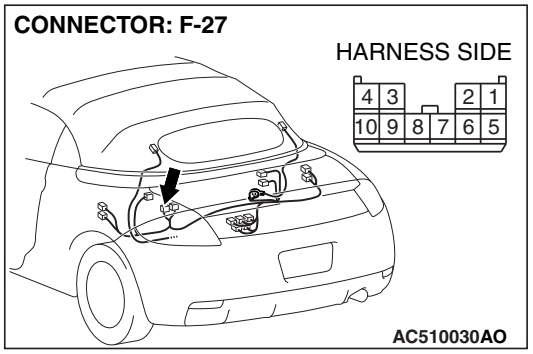
Q: Is the check result satisfactory?

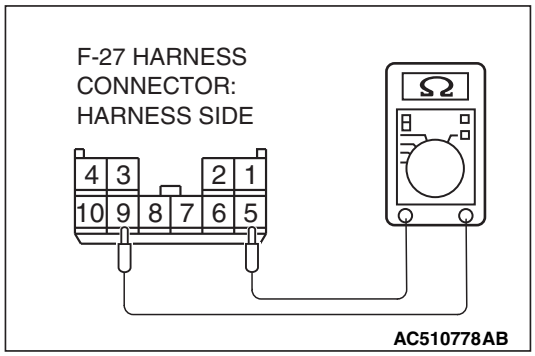
YES : Check the harness between convertible top control module connector F-27 (terminal 5, 10) and solenoid valve (5-bow locking cylinder) connector F-19 (terminal 2, 1). Repair as necessary.

NO : Replace the solenoid valve (tonneau latch cylinder).

STEP 9. Measure the resistance at convertible top control module connector F-27.

(1) Disconnect convertible top control module connector F-27, and measure at the wiring harness side.





(2) Measure the resistance between terminal 5 and 9.
- The measured value should be 5 – 7 Ω.

Q: Is the check result satisfactory?

YES : Go to Step 12.

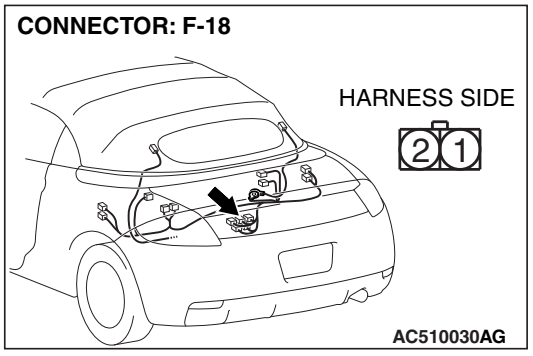
NO : Go to Step 10.

STEP 10. Check solenoid valve (5-bow cylinder) connector F-18 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 11.

NO : Repair or replace the damaged component(s).



STEP 11. Solenoid valve (5-bow cylinder) check

Check that the resistance value of the solenoid valve (5-bow cylinder) is within the standard value range.

Standard value: 5 – 7 Ω

Q: Is the check result satisfactory?

YES : Check the harness between convertible top control module connector F-27 (terminal 5, 9) and solenoid valve (5-bow cylinder) connector F-18 (terminal 2, 1). Repair as necessary.

NO : Replace the solenoid valve (5-bow cylinder).

STEP 12. Check the hydraulic circuit.

Check the hydraulic circuit to the 5-bow locking cylinder and 5-bow cylinder.

Q: Is the check result satisfactory?

YES : Go to Step 13.

NO : Repair or replace the damaged component(s).

STEP 13. Recheck the DTC.

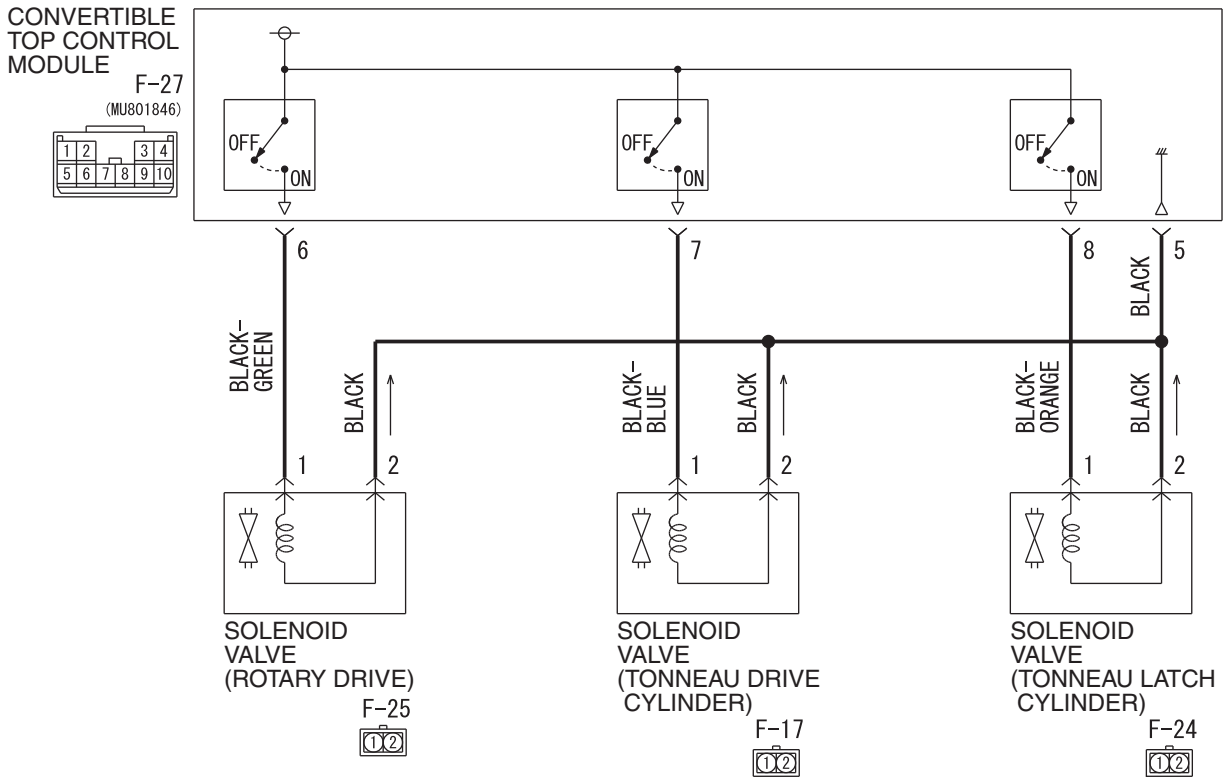
Q: Is DTC B1309 set?

YES : Replace the convertible top control module.

NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1310 Timeout error (TN latch open)

Solenoid Valve (Tonneau Latch Cylinder) and Solenoid Valve (Rotary Drive Cylinder) Circuit



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CIRCUIT OPERATION

- When the 5-bow rises during opening operation, the convertible top control module applies current to the solenoid valve (tonneau latch cylinder) to control hydraulic pressure to the tonneau latch cylinder. As a result, the tonneau latch is opened. Then, when the tonneau latch open sensor is turned ON, this control is terminated.
- At closing operation, the convertible top control module applies current to the solenoid valve (rotary drive) to control the hydraulic pressure to the tonneau latch cylinder. As a result, the tonneau latch is opened. Then, when the tonneau latch open sensor is turned ON, this control is terminated.

DTC SET CONDITION

This DTC is set when the tonneau latch open sensor signal is not turned ON after the operation above continues for specified approximately five seconds.

TROUBLESHOOTING HINTS

- OFF failure of the tonneau latch open sensor
- Malfunction of the convertible top relay
- Malfunction of the convertible top pump motor
- Malfunction of the solenoid valve (rotary drive)
- Malfunction of the solenoid valve (tonneau latch cylinder)
- Damaged harness wires and connectors
- Malfunction of hydraulic circuit
- Malfunction of the convertible top control module

NOTE: If DTC B1309 is not set when the closed convertible top is opened, the pump motor may be normal.

TSB Revision

DIAGNOSIS

Required Special Tool

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

STEP 1. Check the convertible top operation.

Close the convertible top and then perform opening operation.

Q: Is the convertible top opened normally?

YES : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

NO : Go to Step 2.

STEP 2. Using scan tool MB991958, read diagnostic trouble code.

Check for DTCs after opening the convertible top.

Q: Is DTC B1309 set?

YES : Perform troubleshooting referring to "Symptom Procedure 2: Pump motor does not operate." (Refer to P.42-228.)

NO (DTC B1314 is set.) : DTC B1314 is set if a solenoid valve (rotary drive cylinder) error is detected during the opening operation. If this DTC is set, there is a high possibility that this error is caused by the solenoid valve (rotary drive cylinder). Go to Step 3.

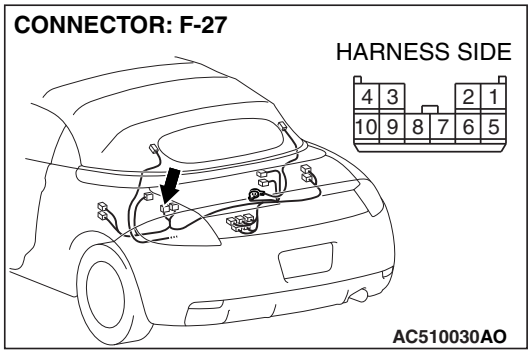
NO (DTC B1310 is set.) : Go to Step 7.

STEP 3. Check convertible top control module connector F-27 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

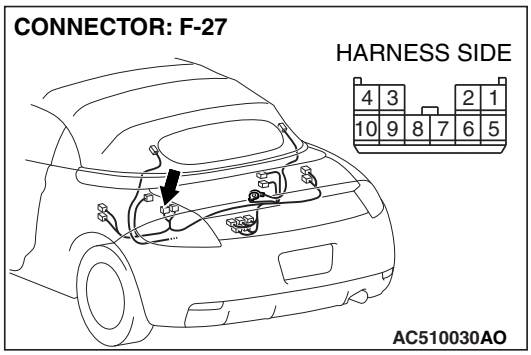
Q: Is the check result satisfactory?

YES : Go to Step 4.

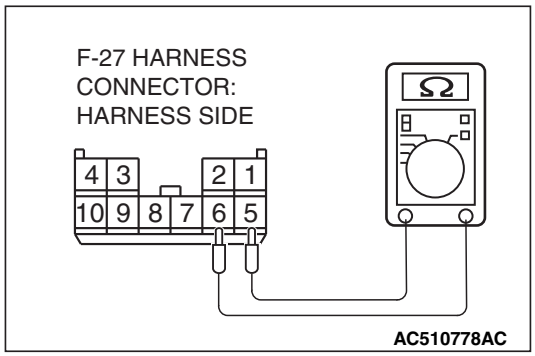
NO : Repair or replace the damaged component(s).



STEP 4. Measure the resistance at convertible top control module connector F-27.



(1) Disconnect convertible top control module connector F-27, and measure at the wiring harness side.



(2) Measure the resistance between terminal 6 and 5.
- The measured value should be 5 – 7 Ω.

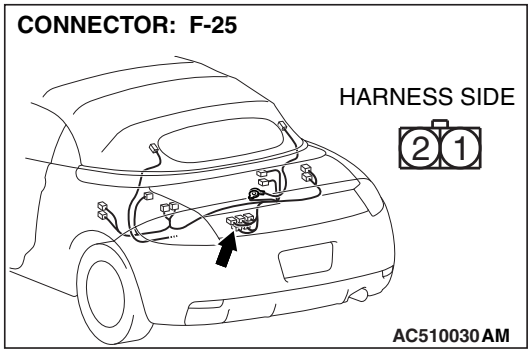
Q: Is the check result satisfactory?

YES : Replace the convertible top control module.
NO : Go to Step 5.

STEP 5. Check solenoid valve (rotary drive) connector F-25 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 6.
NO : Repair or replace the damaged component(s).



STEP 6. Solenoid valve (rotary drive) check

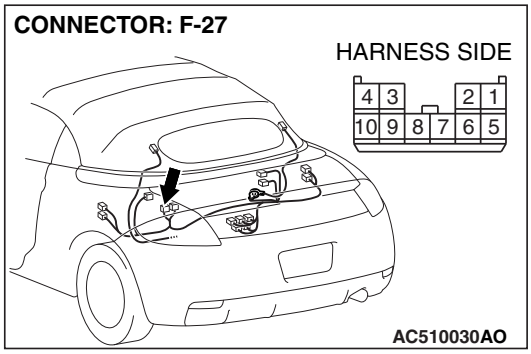
Check that the resistance value of the solenoid valve (rotary drive) is within the standard value range.

Standard value: 5 – 7 Ω

Q: Is the check result satisfactory?

YES : Check the harness between convertible top control module connector F-27 (terminal 6, 5) and solenoid valve (rotary drive) connector F-25 (terminal 1, 2). Repair as necessary.
NO : Replace the solenoid valve (rotary drive).

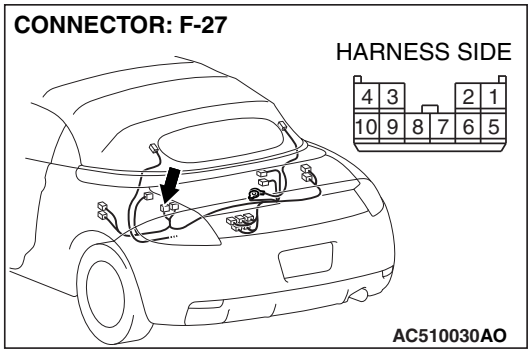
STEP 7. Check convertible top control module connector F-27 for loose, corroded or damaged terminals, or terminals pushed back in the connector.



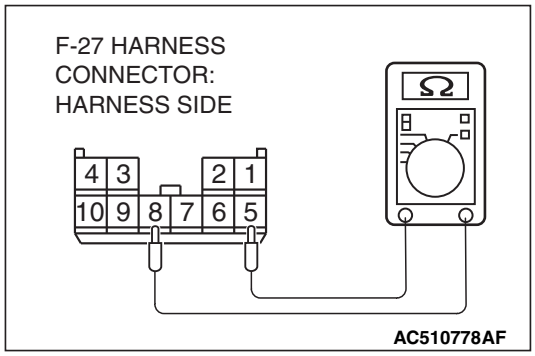
Q: Is the check result satisfactory?

YES : Go to Step 8.
NO : Repair or replace the damaged component(s).

STEP 8. Measure the resistance at convertible top control module connector F-27.



(1) Disconnect convertible top control module connector F-27, and measure at the wiring harness side.

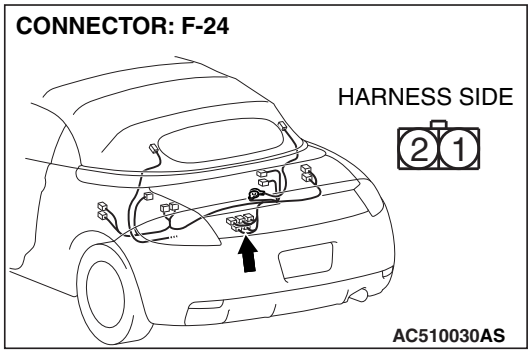


(2) Measure the resistance between terminal 8 and 5.
- The measured value should be 5 – 7 Ω.

Q: Is the check result satisfactory?

YES : Go to Step 11.
NO : Go to Step 9.

STEP 9. Check solenoid valve (tonneau latch cylinder) connector F-24 for loose, corroded or damaged terminals, or terminals pushed back in the connector.



Q: Is the check result satisfactory?

YES : Go to Step 10.
NO : Repair or replace the damaged component(s).

STEP 10. Solenoid valve (tonneau latch cylinder) check

Check that the resistance value of the solenoid valve (tonneau latch cylinder) is within the standard value range.

Standard value: 5 – 7 Ω

Q: Is the check result satisfactory?

YES : Check the harness between convertible top control module connector F-27 (terminal 8, 5) and solenoid valve (tonneau latch cylinder) connector F-24 (terminal 1, 2). Repair as necessary.

NO : Replace the solenoid valve (tonneau latch cylinder).

STEP 11. Hydraulic circuit check

Check the hydraulic circuit to the tonneau latch cylinder.

Q: Is the check result satisfactory?

YES : Replace the tonneau open sensor. Then go to Step 12.

NO : Repair or replace the damaged component(s).

STEP 12. Recheck the DTC.

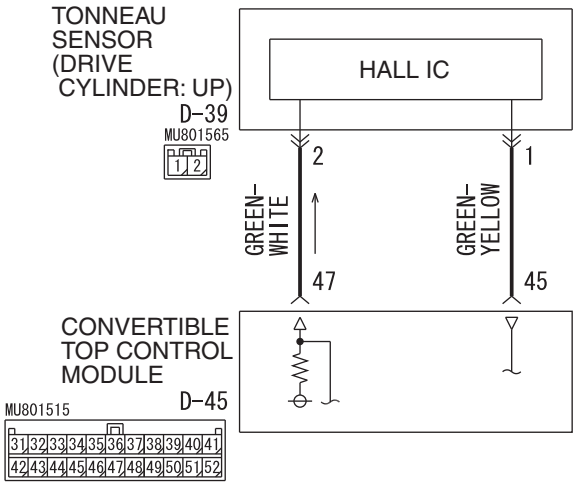
Q: Is DTC B1310 set?

YES : Replace the convertible top control module.

NO : This diagnosis is complete.

DTC B1311 TN panel sensor: Close&Open=ON

Tonneau Sensor Circuit



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TSB Revision

CIRCUIT OPERATION

The convertible top control module judges the tonneau panel state based on the signals from the tonneau sensor provided on the tonneau drive cylinder and right and left tonneau latch switches (Ready to latch). The tonneau sensor and tonneau latch switches (Ready to latch) set the following signals to the convertible top control module according to the tonneau panel state.

Item	Convertible top state		
	Close	Operating Tonneau panel: Open	Open
Tonneau latch switch (Ready to latch)	ON	OFF	ON
Tonneau sensor	OFF	ON	OFF

DTC SET CONDITION

This DTC is set when the signal from either right or left tonneau latch switch (Ready to latch) (LH) and the signal from the tonneau sensor are turned ON simultaneously.

TROUBLESHOOTING HINTS

- ON failure of tonneau latch switch (Ready to latch) (including short circuit of signal line)
- ON failure of tonneau sensor (including defective power supply line or signal line)
- Malfunction of the convertible top control module

NOTE: When ON failure occurs in either tonneau latch switch (Ready to latch), DTC B1305 or B1306 is set at the same time.

DIAGNOSIS

Required Special Tool

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

STEP 1. Using scan tool MB991958, read the diagnostic trouble code.

Q: Is DTC B1305 or B1306 set?

YES <DTC B1305 is set> : Perform troubleshooting for DTC B1305.

YES <DTC B1306 is set> : Perform troubleshooting for DTC B1306.

NO : Go to Step 2.

STEP 2. Using scan tool MB991958, check data list.

(1) Close the convertible top.

(2) Use scan tool MB991958 to check the following service data (Refer to P.42-236).

- Item 14: Tonneau sensor up

OK: "OFF" appears.

Q: Is the check result satisfactory?

YES : Go to Step 6.

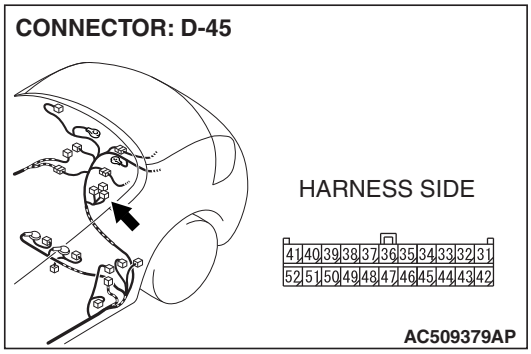
NO : Go to Step 3.

STEP 3. Check convertible top control module connector D-45 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 4.

NO : Repair or replace the damaged component(s).

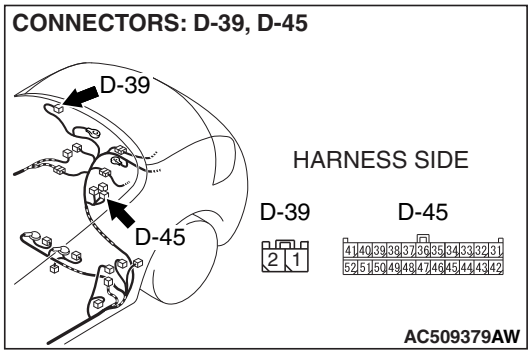


STEP 4. Check the harness between convertible top control module connector D-45 (terminal 47, 45) and Tonneau sensor connector D-39 (terminal 2, 1).

Q: Is the check result satisfactory?

YES : Replace the tonneau sensor. Then go to Step 5.

NO : Repair the harness wire.



STEP 5. Using scan tool MB991958, check data list.

Use scan tool MB991958 to check the following service data (Refer to P.42-236).

- Item 14: Tonneau sensor up

OK: "OFF" appears.

Q: Is the check result satisfactory?

YES : The procedure is complete.

NO : Replace the convertible top control module.

STEP 6. Recheck the DTC.

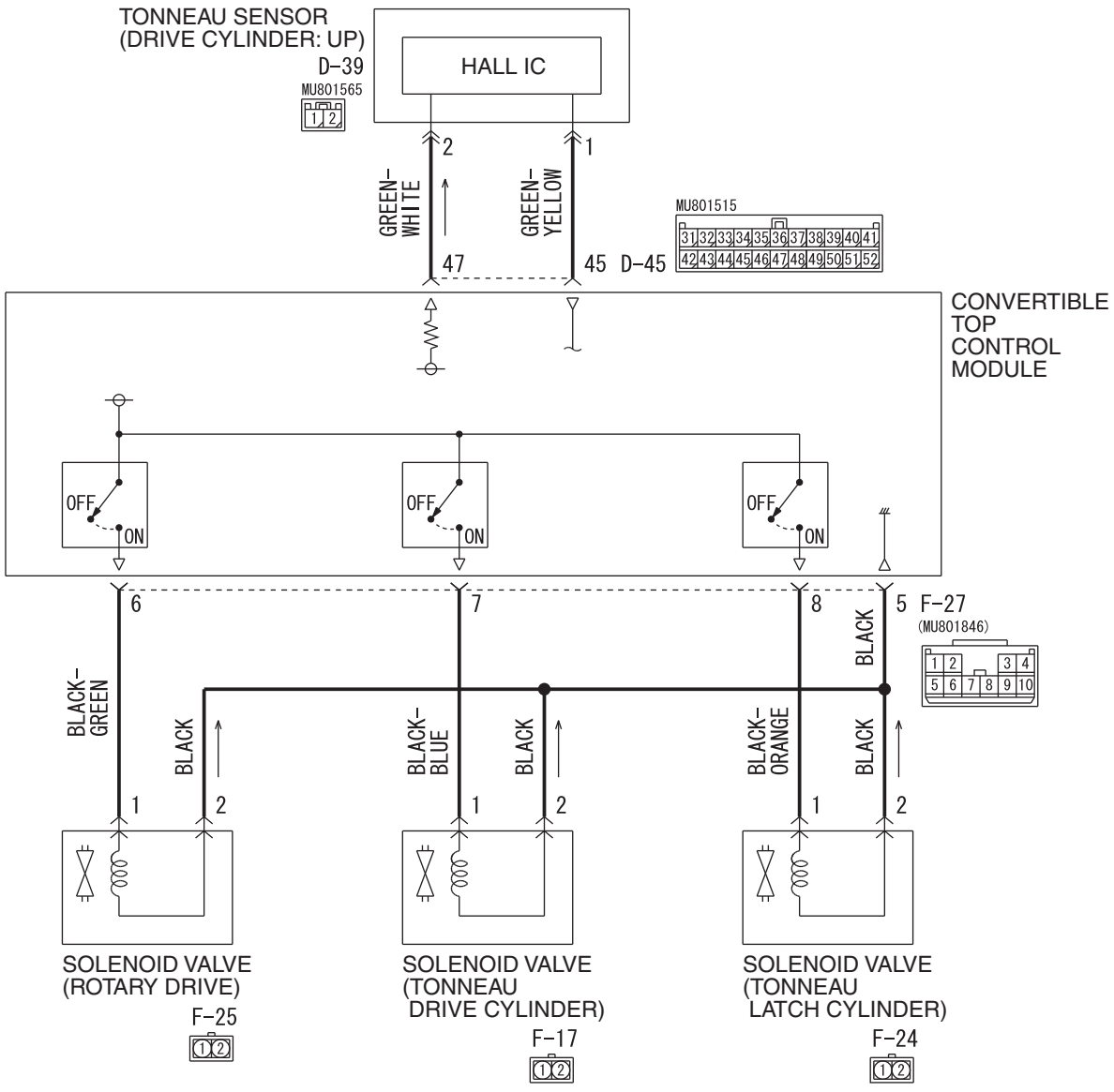
Q: Is DTC B1311 set?

YES : Replace the convertible top control module.

NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1312 Timeout error (TN panel open)

Solenoid Valve (Tonneau Drive Cylinder) and Tonneau Sensor Circuit



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TSB Revision

CIRCUIT OPERATION

At opening or closing operation, when the tonneau latch is opened, the convertible top control module applies current to the solenoid valve (tonneau drive cylinder) to control the hydraulic pressure to the tonneau drive cylinder. As a result, the tonneau panel is opened. Then, when the tonneau sensor is turned ON, this control is terminated.

DTC SET CONDITION

This DTC is set when the tonneau sensor signal is not turned ON after the operation above continues for approximately ten seconds.

TROUBLESHOOTING HINTS

- OFF failure of the tonneau sensor
- Malfunction of the solenoid valve (tonneau drive cylinder)
- Damaged harness wires and connectors
- Malfunction of hydraulic circuit
- Malfunction of the convertible top control module

DIAGNOSIS

Required Special Tool

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

STEP 1. Check the convertible top operation.

When the convertible top is opened, check that the tonneau panel rises and stops in approximately 4 seconds.

Q: Does the tonneau panel rise when the convertible top is opened?

YES (stops in approximately 4 seconds.) : Replace the tonneau open sensor. Then go to Step 7.

YES (stops in approximately 10 seconds.) : If it takes approximately 10 seconds to stop, the operation is stopped by the convertible top control module fail-safe function. In this case, the hydraulic circuit may be defective. Check the hydraulic circuit.

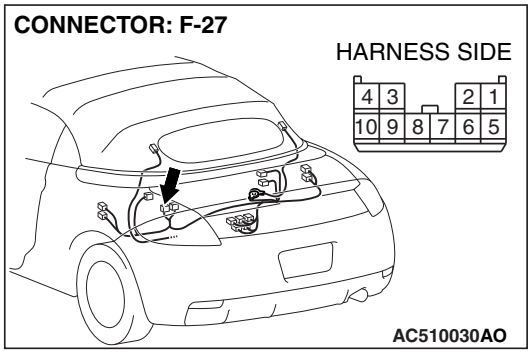
NO : Go to Step 2.

STEP 2. Check convertible top control module connector F-27 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

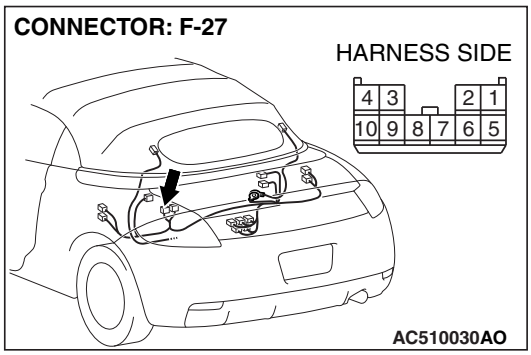
Q: Is the check result satisfactory?

YES : Go to Step 3.

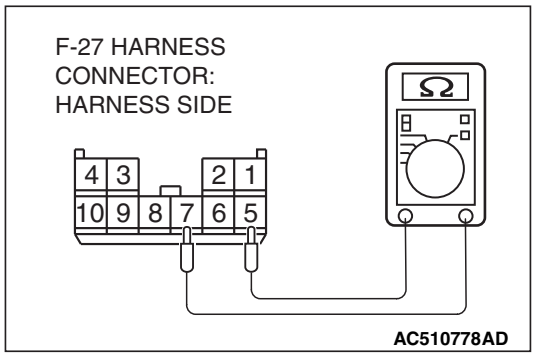
NO : Repair or replace the damaged component(s).



STEP 3. Measure the resistance at convertible top control module connector F-27.



(1) Disconnect convertible top control module connector F-27, and measure at the wiring harness side.



(2) Measure the resistance between terminal 7 and 5.
- The measured value should be 5 – 7 Ω.

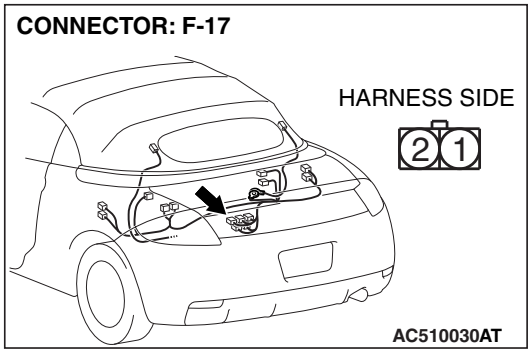
Q: Is the check result satisfactory?

YES : Go to Step 6.
NO : Go to Step 4.

STEP 4. Check solenoid valve (tonneau drive cylinder) connector F-17 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 5.
NO : Repair or replace the damaged component(s).



STEP 5. Solenoid valve (tonneau drive cylinder) check

Check that the resistance value of the solenoid valve (tonneau drive cylinder) is within the standard value range.

Standard value: 5 – 7 Ω

Q: Is the check result satisfactory?

YES : Check the harness between convertible top control module connector F-27 (terminal 7, 5) and solenoid valve (tonneau drive cylinder) connector F-17 (terminal 1, 2). Repair as necessary.
NO : Replace the solenoid valve (tonneau drive cylinder).

STEP 6. Hydraulic circuit check

Check the hydraulic circuit to the tonneau drive cylinder.

Q: Is the check result satisfactory?

YES : Replace the convertible top control module.
NO : Repair or replace the damaged component(s).

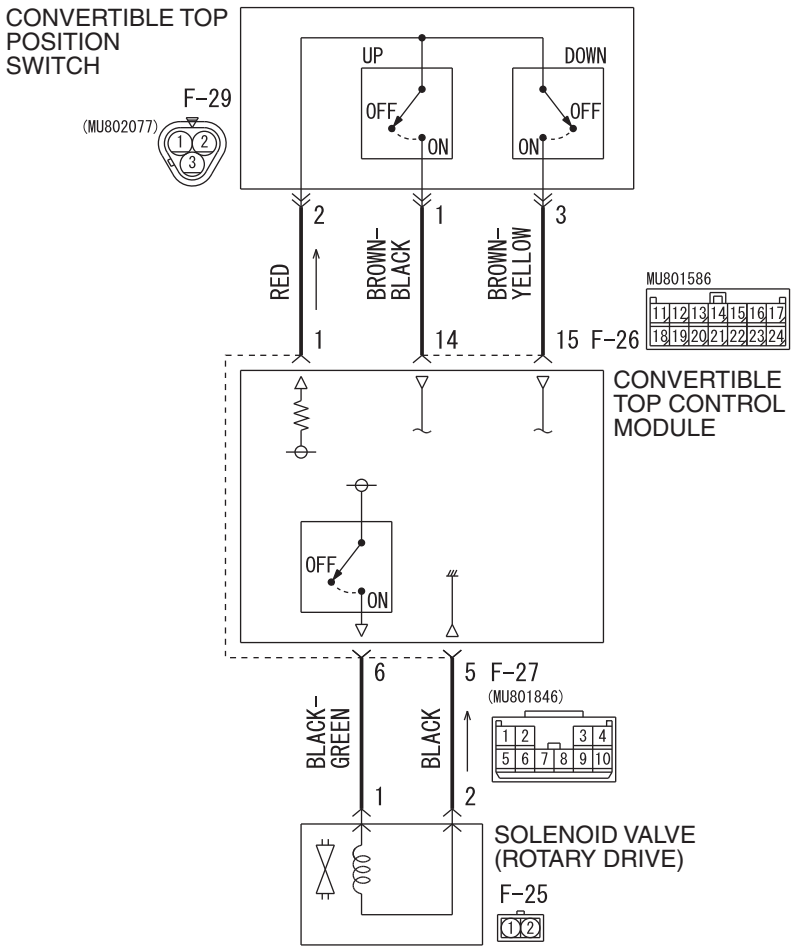
STEP 7. Recheck the DTC.

Q: Is DTC B1312 set?

YES : Replace the convertible top control module.
NO : This diagnosis is complete.

DTC B1313 Timeout error (Topstack down)

Solenoid Valve(Rotary Drive) and Convertible Top Position Switch Circuit



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CIRCUIT OPERATION

At opening operation, when the tonneau panel is opened, the convertible top control module applies current to the solenoid valve (rotary drive cylinder) in addition to the solenoid valve (tonneau drive cylinder) to control the hydraulic pressure to the rotary drive cylinder. As a result, the convertible top is lowered. Then, when the convertible top position switch (down) is turned ON, this control is terminated.

DTC SET CONDITION

This DTC is set when a signal from the convertible top position switch (down) is not turned ON after the operation above continues for approximately 20 seconds.

TROUBLESHOOTING HINTS

- OFF failure of the convertible top position switch (down)
- Malfunction of the solenoid valve (rotary drive cylinder)
- Damaged harness wires and connectors
- Malfunction of hydraulic circuit
- Malfunction of the convertible top control module

DIAGNOSIS

Required Special Tool

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

STEP 1. Check the convertible top operation.

When the convertible top is opened, check that the convertible top lowers and stops in approximately 8 seconds.

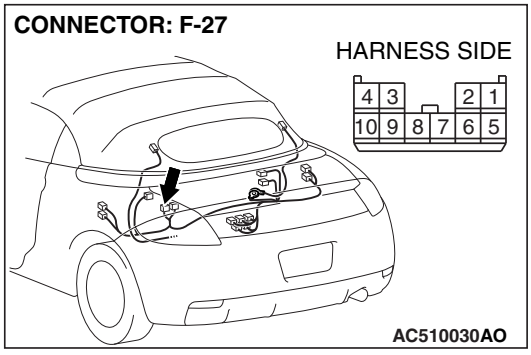
Q: Does the convertible top lower when the convertible top is opened?

YES (stops in approximately 8 seconds.) : Go to Step 7.
YES (stops in approximately 10 seconds.) : If it takes approximately 20 seconds to stop, the operation is stopped by the convertible top control module fail-safe function. In this case, the hydraulic circuit may be defective. Check the hydraulic circuit.
NO : Go to Step 2.

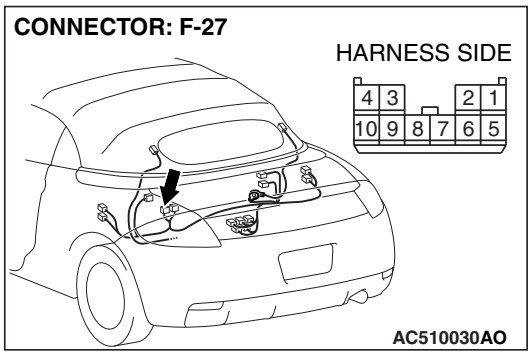
STEP 2. Check convertible top control module connector F-27 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

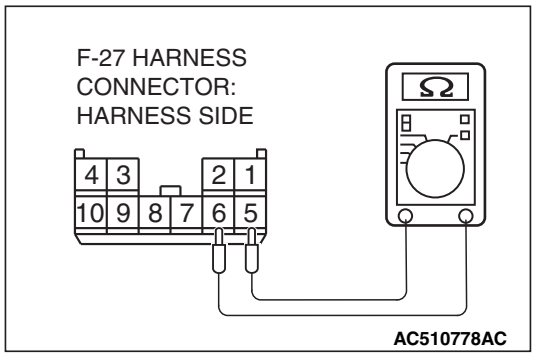
YES : Go to Step 3.
NO : Repair or replace the damaged component(s).



STEP 3. Measure the resistance at convertible top control module connector F-27.



(1) Disconnect convertible top control module connector F-27, and measure at the wiring harness side.



(2) Measure the resistance between terminal 6 and 5.
- The measured value should be 5 – 7 Ω.

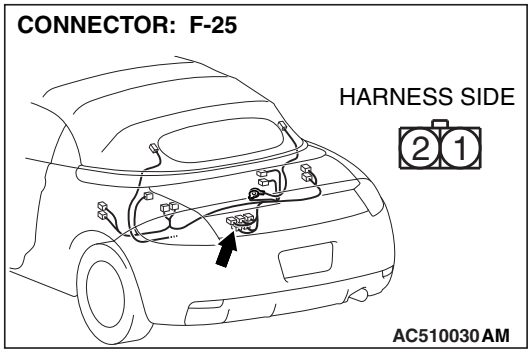
Q: Is the check result satisfactory?

YES : Go to Step 6.
NO : Go to Step 4.

STEP 4. Check solenoid valve (rotary drive cylinder) connector F-25 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 5.
NO : Repair or replace the damaged component(s).



STEP 5. Solenoid valve (rotary drive cylinder) check

Check that the resistance value of the solenoid valve (rotary drive cylinder) is within the standard value range.

Standard value: 5 – 7 Ω

Q: Is the check result satisfactory?

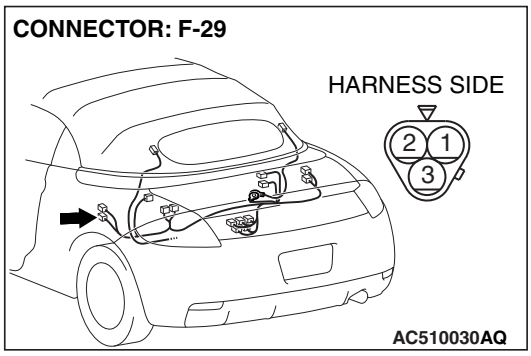
YES : Check the harness between convertible top control module connector F-27 (terminal 6, 5) and solenoid valve (rotary drive cylinder) connector F-25 (terminal 1, 2). Repair as necessary.
NO : Replace the solenoid valve (rotary drive cylinder).

STEP 6. Hydraulic circuit check
Check the hydraulic circuit to the rotary drive cylinder.

Q: Is the check result satisfactory?

YES : Replace the convertible top control module.
NO : Repair or replace the damaged component(s).

STEP 7. Check convertible top position switch connector F-29 for loose, corroded or damaged terminals, or terminals pushed back in the connector.
Check the wiring harness for open circuit.



Q: Is the check result satisfactory?

YES : Go to Step 8.
NO : Repair or replace the damaged component(s).

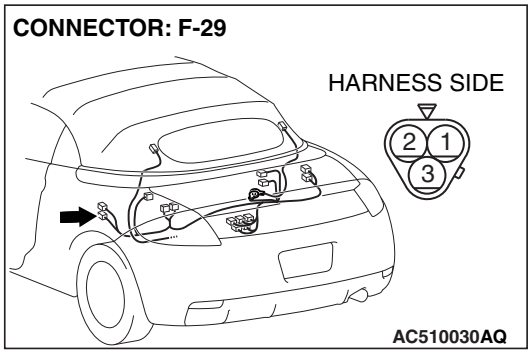
STEP 8. Convertible top position switch check
Check for continuity at the convertible top position switch (down).

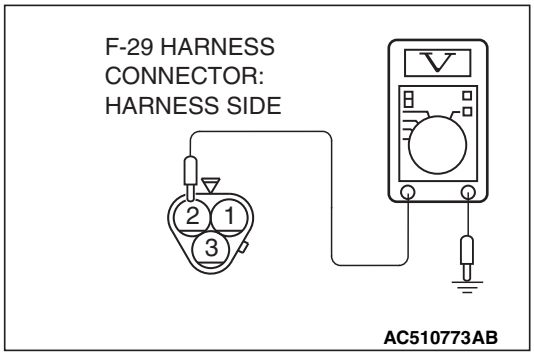
Switch position	Tester connection	Specified condition
DOWN switch OFF	2 – 3	No continuity
DOWN switch ON		Continuity exists. (2 Ω or less)

Q: Is the check result satisfactory?

YES : Go to Step 9.
NO : Replace the convertible top position switch.

STEP 9. Measure the voltage at the convertible top control module connector.
(1) Disconnect convertible top position switch connector F-29, and measure at the wiring harness side.





(2) Measure the voltage between terminal 2 and ground.
- The measured value should be approximately 8 volts.

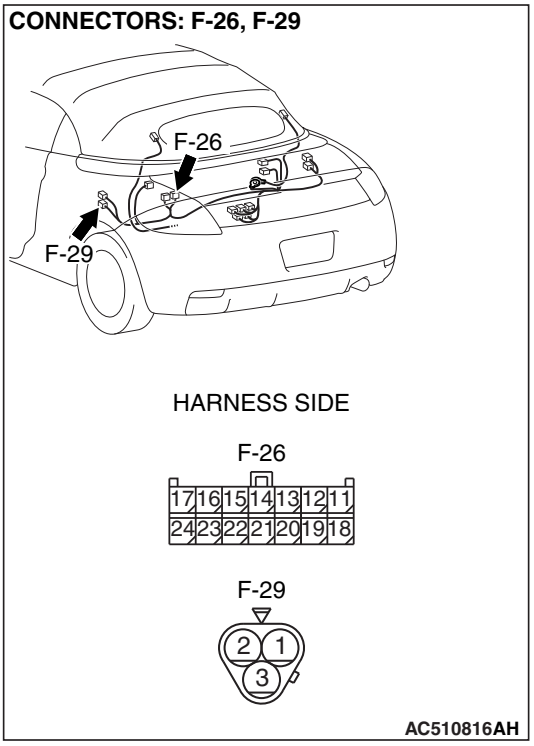
Q: Is the check result satisfactory?

YES : Go to Step 10.

NO : Check the harness between convertible top control module connector F-27 (terminal 1) and convertible top position switch connector F-29 (terminal 2). Repair as necessary.

STEP 10. Check the harness between convertible top control module connector F-26 (terminal 15) and convertible top position switch connector F-29 (terminal 3).

Check the signal line of the convertible top position switch (down) for open or short circuit.



Q: Is the check result satisfactory?

YES : Go to Step 11.

NO : Repair the harness wire.

STEP 11. Recheck the DTC.

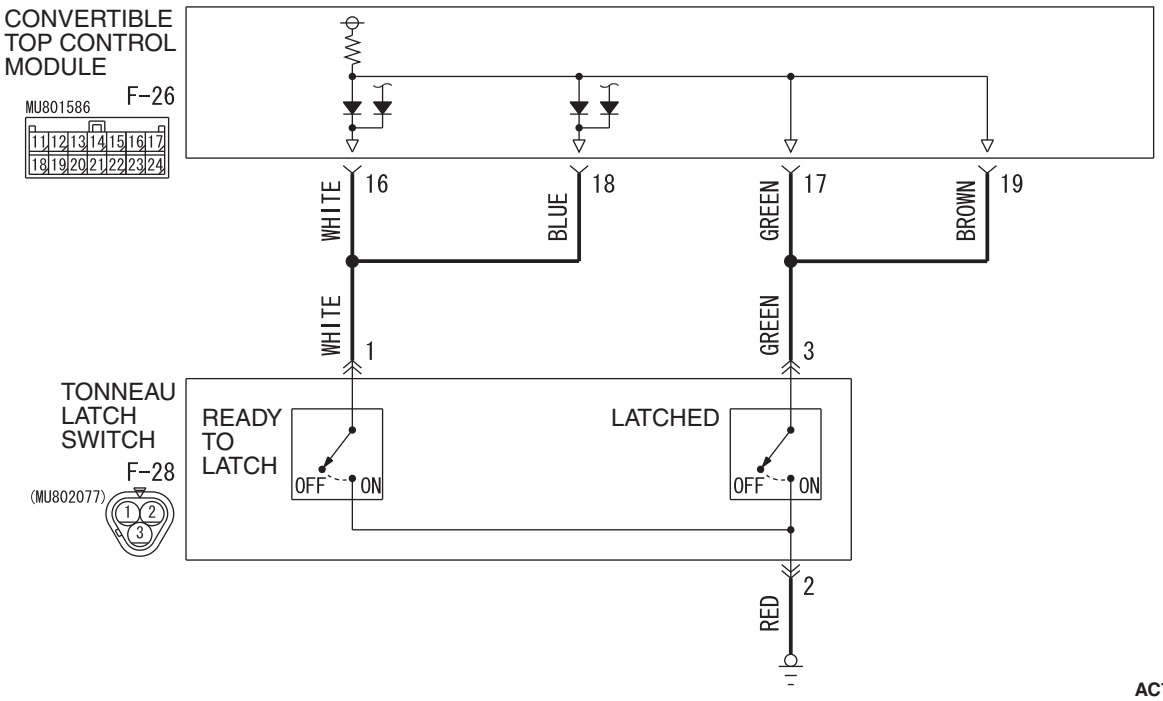
Q: Is DTC B1313 set?

YES : Replace the convertible top control module.

NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1314 Timeout error (TN panel close)

Tonneau Latch Switch Circuit



CIRCUIT OPERATION

At opening operation, when the convertible top is lowered, the convertible top control module stops applying current to the solenoid valve (tonneau drive cylinder) to control the hydraulic pressure to the tonneau drive cylinder. As a result, the tonneau panel is lowered. Then, when the tonneau latch switch (ready to latch) is turned ON, this control is terminated.

DTC SET CONDITION

This DTC is set when a signal from the tonneau latch switch (ready to latch) is not turned ON after the operation above continues for approximately ten seconds.

TROUBLESHOOTING HINTS

- OFF failure of the tonneau latch switch (ready to latch)
- Damaged harness wires and connectors
- Malfunction of hydraulic circuit
- Malfunction of the convertible top control module

NOTE: When OFF failure occurs at tonneau latch switch (ready to latch), DTC B1305 or B1306 is set at the same time.

DIAGNOSIS

Required Special Tools

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

TSB Revision

STEP 1. Using scan tool MB991958, read diagnostic trouble code.

Q: Is DTC B1305 or B1306 set?

YES <DTC B1305 is set> : Perform troubleshooting for DTC B1305.
YES <DTC B1306 is set> : Perform troubleshooting for DTC B1306.
NO : Go to Step 2.

STEP 2. Check the convertible top operation.
Check that the tonneau panel is lowered when the convertible top is opened.

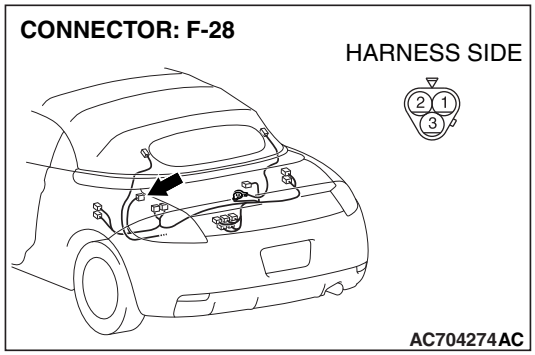
Q: Is the tonneau panel lowered when the convertible top is opened?

YES : Go to Step 3.
NO : Check the hydraulic circuit.

STEP 3. Check tonneau latch switch connector F-28 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 4.
NO : Repair or replace the damaged component(s).

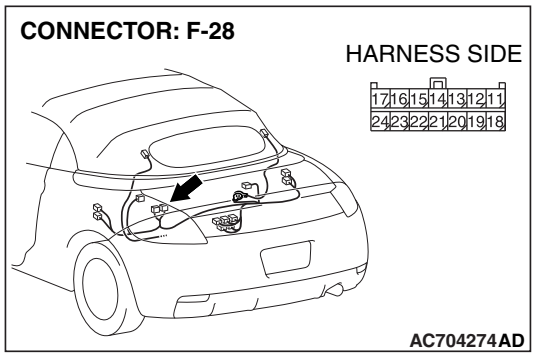


STEP 4. Tonneau latch switch (Ready to latch) check
Check for continuity at the tonneau latch switch (Ready to latch).

Switch position	Tester connection	Specified condition
ON	1 – 2	Continuity exists (2 Ω or less)
OFF		No continuity

Q: Is the check result satisfactory?

YES : Go to Step 5.
NO : Replace the tonneau latch switch.

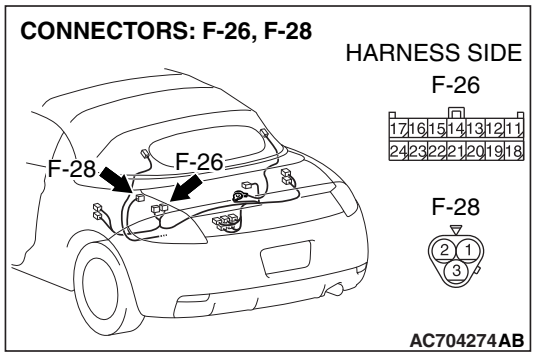


STEP 5. Check convertible top control module connector F-26 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 6.

NO : Repair or replace the damaged component(s).



STEP 6. Check the harness between convertible top control module connector F-26 (terminal 16) and Tonneau latch switch connector F-28 (terminal 1), the harness between convertible top control module connector F-26 (terminal 18) and Tonneau latch switch connector F-28 (terminal 1) or the harness between tonneau latch switch connector F-28 (terminal 2) and ground.

Check the wiring harness for short circuit.

Q: Is the check result satisfactory?

YES : Go to Step 7.

NO : Repair the harness wire.

STEP 7. Recheck the DTC.

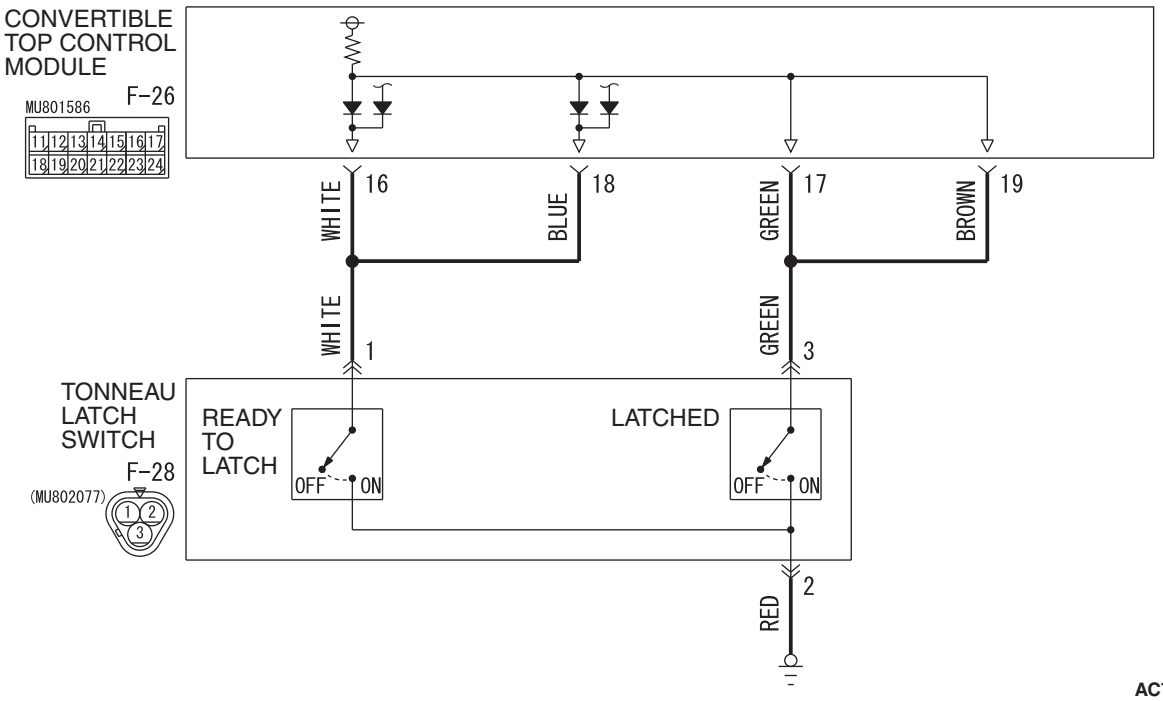
Q: Is DTC B1314 set?

YES : Replace the convertible top control module.

NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1315 Timeout error (TN latch close)

Tonneau Latch Switch Circuit



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CIRCUIT OPERATION

At opening or closing operation, when the tonneau panel is lowered, the convertible top control module stops applying current to the solenoid valve (rotary drive cylinder) to control the hydraulic pressure to the rotary drive cylinder. As a result, the tonneau latch is closed. Then, when the tonneau latch switch (latched) is turned ON, this control is terminated.

DTC SET CONDITION

This DTC is set when a signal from the tonneau latch switch (latched) is not turned ON after the operation above continues for approximately five seconds.

TROUBLESHOOTING HINTS

- OFF failure of the tonneau latch switch (latched)
- Damaged harness wires and connectors
- Malfunction of hydraulic circuit
- Malfunction of the convertible top control module

NOTE: When OFF failure occurs in tonneau latch switch (latched), DTC B1307 or B1308 is set at the same time.

DIAGNOSIS

Required Special Tools

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

STEP 1. Using scan tool MB991958, read diagnostic trouble code.

Q: Is DTC B1307 or B1308 set?

YES <DTC B1307 is set> : Perform troubleshooting for DTC B1307.

YES <DTC B1308 is set> : Perform troubleshooting for DTC B1308.

NO : Go to Step 2.

STEP 2. Hydraulic circuit check

Check the hydraulic circuit to the rotary drive cylinder.

Q: Is the check result satisfactory?

YES : Go to Step 3.

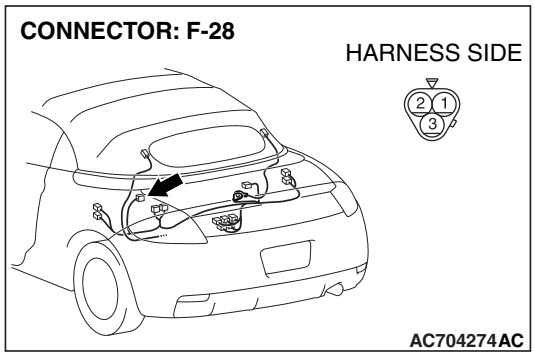
NO : Repair or replace the damaged component(s).

STEP 3. Check tonneau latch switch connector F-28 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 4.

NO : Repair or replace the damaged component(s).



STEP 4. Tonneau latch switch (Latched) check

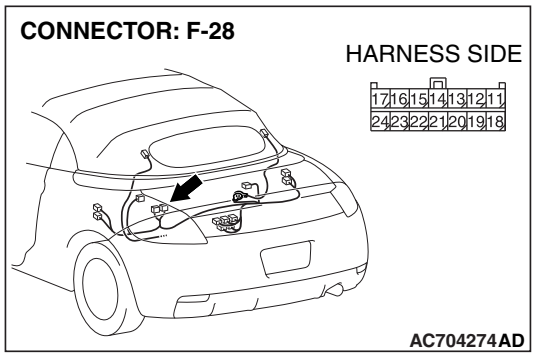
Check for continuity at the tonneau latch switch (Latched).

Switch position	Tester connection	Specified condition
ON	2 – 3	Continuity exists (2 Ω or less)
OFF		No continuity

Q: Is the check result satisfactory?

YES : Go to Step 5.

NO : Replace the tonneau latch switch.

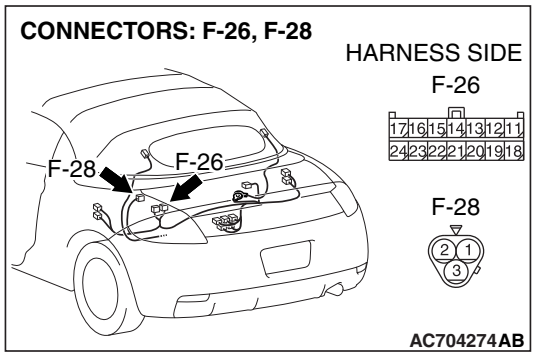


STEP 5. Check convertible top control module connector F-26 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 6.

NO : Repair or replace the damaged component(s).



STEP 6. Check the harness between convertible top control module connector F-26 (terminal 17) and tonneau latch switch connector F-28 (terminal 3), the harness between convertible top control module connector F-26 (terminal 19) and tonneau latch switch connector F-28 (terminal 3) or the harness between tonneau latch switch connector F-28 (terminal 2) and ground.

Check the wiring harness for short circuit.

Q: Is the check result satisfactory?

YES : Go to Step 7.

NO : Repair the harness wire.

STEP 7. Recheck the DTC.

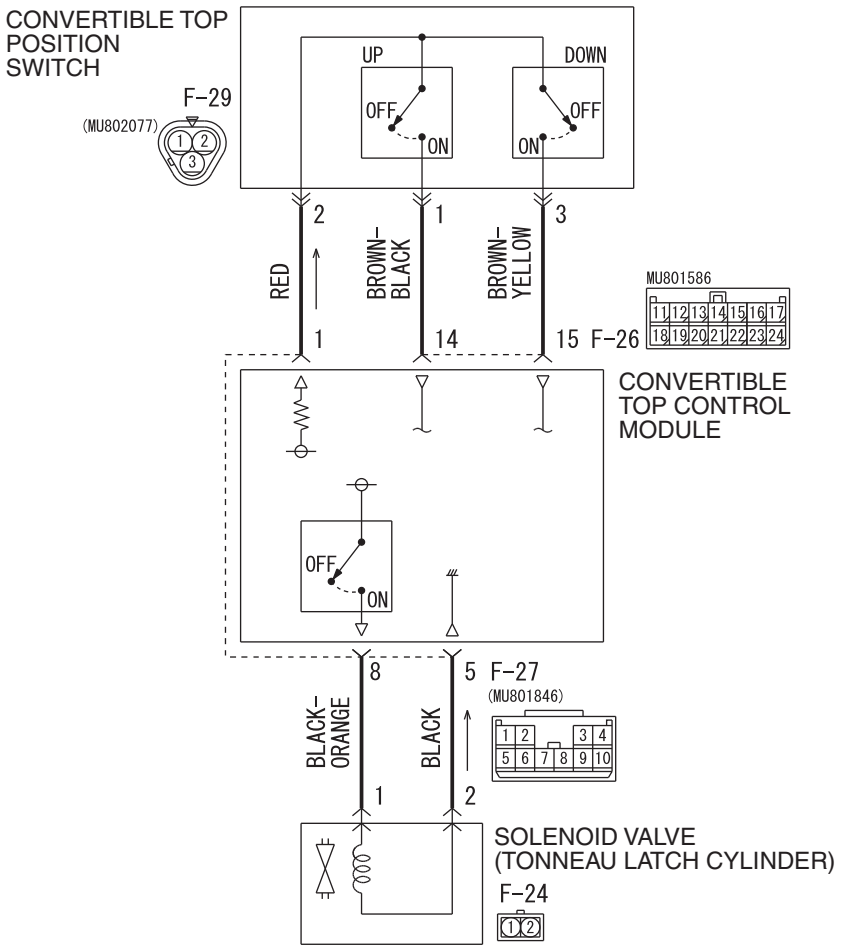
Q: Is DTC B1315 set?

YES : Replace the convertible top control module.

NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1316 Timeout error (Topstack up)

Solenoid Valve (Tonneau Latch Cylinder) and Convertible Top Position Switch Circuit



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CIRCUIT OPERATION

At closing operation, when the tonneau panel is opened, the convertible top control module applies current to the solenoid valve (tonneau latch cylinder) in addition to the solenoid valve (tonneau drive cylinder) to control the hydraulic pressure to the rotary drive cylinder. As a result, the convertible top rises. Then, when the convertible top position switch (up) is turned ON, this control is terminated.

DTC SET CONDITION

This DTC is set when a signal from the convertible top position switch (up) is not turned ON after the operation above continues for approximately 20 seconds.

TROUBLESHOOTING HINTS

- OFF failure of the convertible top position switch (up)
- Malfunction of the solenoid valve (tonneau latch cylinder)
- Damaged harness wires and connectors
- Malfunction of hydraulic circuit
- Malfunction of the convertible top control module

TSB Revision

DIAGNOSIS

Required Special Tool

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

STEP 1. Check the convertible top operation.

When the convertible top is closed, check that the convertible top rises and stops in approximately 9 seconds.

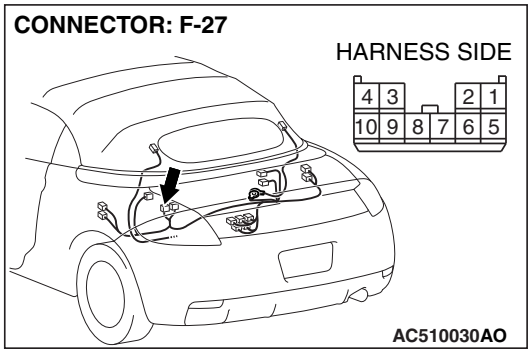
Q: Does the convertible top rise when the convertible top is closed?

YES (stops in approximately 8 seconds.) : Go to Step 7.
YES (stops in approximately 10 seconds.) : If it takes approximately 20 seconds to stop, the operation is stopped by the convertible top control module fail-safe function. In this case, the hydraulic circuit may be defective. Check the hydraulic circuit.
NO : Go to Step 2.

STEP 2. Check convertible top control module connector F-27 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

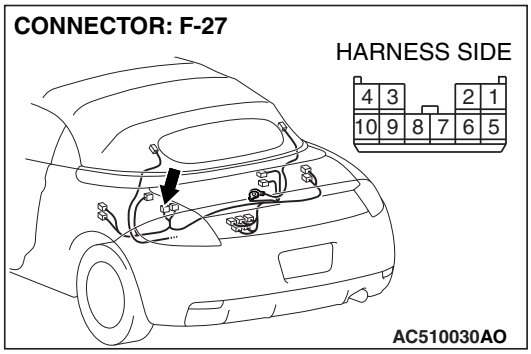
Q: Is the check result satisfactory?

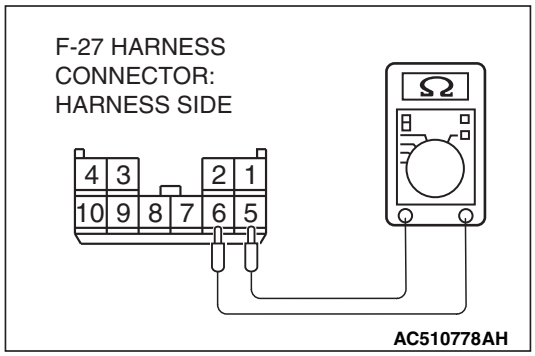
YES : Go to Step 3.
NO : Repair or replace the damaged component(s).



STEP 3. Measure the resistance at convertible top control module connector F-27.

(1) Disconnect convertible top control module connector F-27, and measure at the wiring harness side.





(2) Measure the resistance between terminal 5 and 6.

The measured resistance should be 5 – 7 Ω.

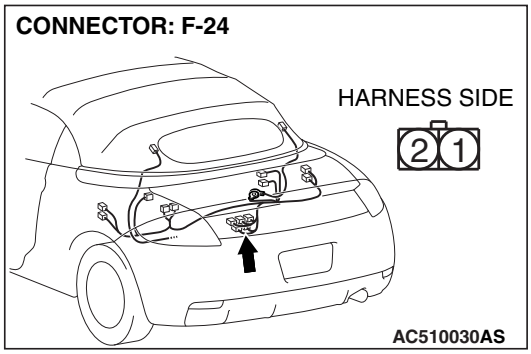
Q: Is the check result satisfactory?

YES : Go to Step 6.
NO : Go to Step 4.

STEP 4. Check solenoid valve (tonneau latch cylinder) connector F-24 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 5.
NO : Repair or replace the damaged component(s).



STEP 5. Solenoid valve (tonneau latch cylinder) check

Check that the resistance value of the solenoid valve (tonneau latch cylinder) is within the standard value range.

Standard value: 5 – 7 Ω

Q: Is the check result satisfactory?

YES : Check the harness between convertible top control module connector F-27 (terminal 5, 6) and solenoid valve (tonneau latch cylinder) connector F-24 (terminal 2, 1). Repair as necessary.
NO : Replace the solenoid valve (tonneau latch cylinder).

STEP 6. Hydraulic circuit check

Check the hydraulic circuit to the rotary drive cylinder.

Q: Is the check result satisfactory?

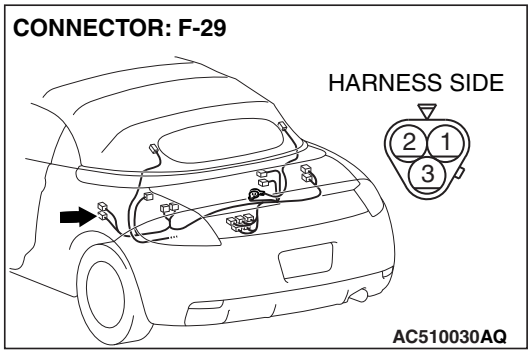
YES : Replace the convertible top control module.
NO : Repair or replace the damaged component(s).

STEP 7. Check convertible top position switch connector F-29 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 8.

NO : Repair or replace the damaged component(s).



STEP 8. Convertible top position switch check

Check for continuity at the convertible top position switch (up).

Switch position	Tester connection	Specified condition
UP switch OFF	1 – 2	No continuity
UP switch ON		Continuity exists (2 Ω or less)

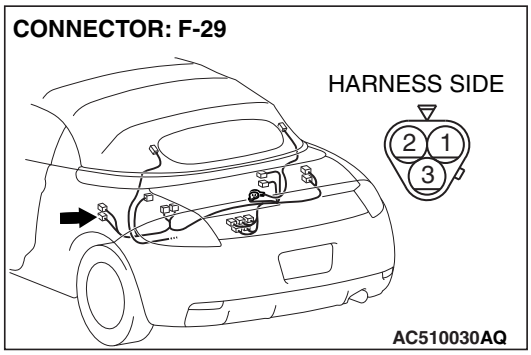
Q: Is the check result satisfactory?

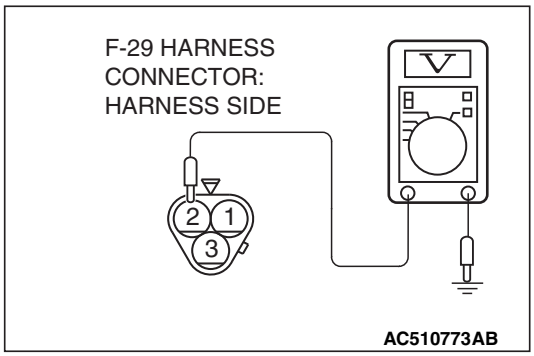
YES : Go to Step 9.

NO : Replace the convertible top position switch.

STEP 9. Measure the voltage at the convertible top control module connector.

(1) Disconnect convertible top position switch connector F-29, and measure at the wiring harness side.





(2) Measure the voltage between terminal 2 and ground.

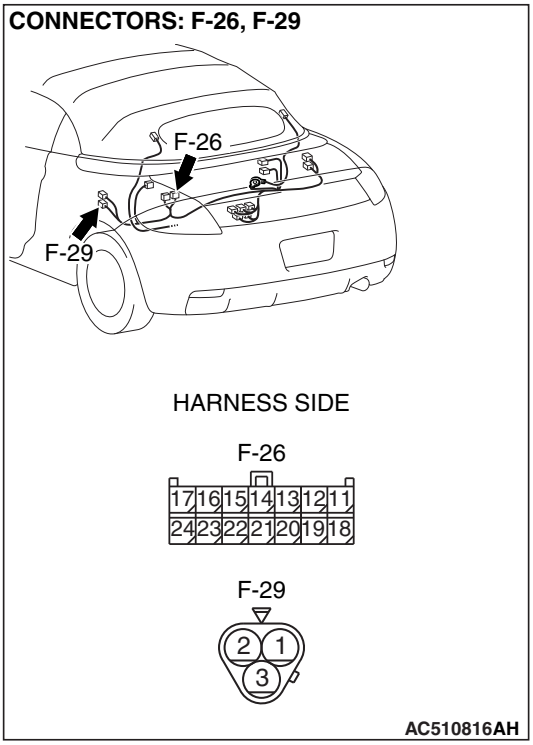
- The measured value should be approximately 8 volts.

Q: Is the check result satisfactory?

YES : Go to Step 10.

NO : Check the harness between convertible top control module connector F-27 (terminal 1) and convertible top position switch connector F-29 (terminal 2). Repair as necessary.

CONNECTORS: F-26, F-29



STEP 10. Check the harness between convertible top control module connector F-26 (terminal 14) and convertible top position switch connector F-29 (terminal 1).

Check the signal line of the convertible top position switch (up) for open or short circuit.

Q: Is the check result satisfactory?

YES : Go to Step 11.

NO : Repair the harness wire.

STEP 11. Recheck the DTC.

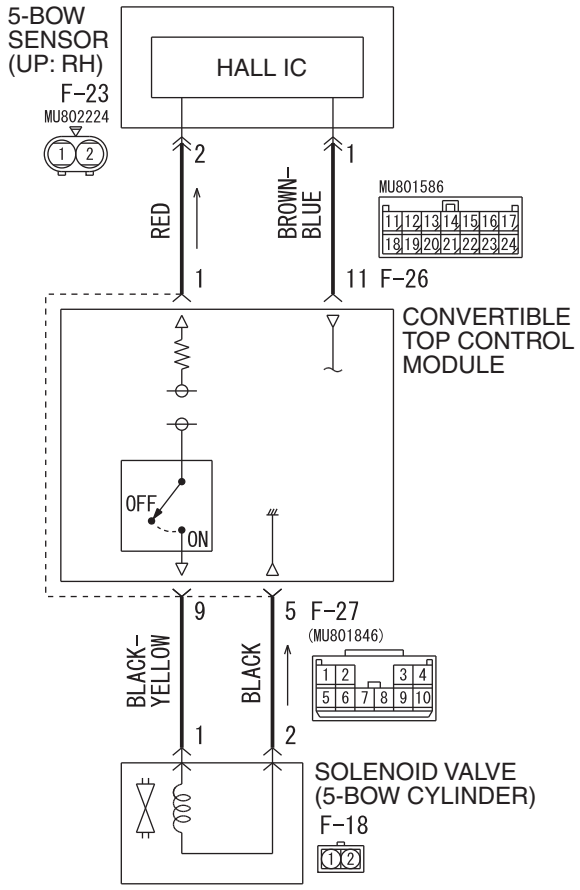
Q: Is DTC B1316 set?

YES : Replace the convertible top control module.

NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1317 Timeout error (5bow down)

Solenoid Valve(5-bow Cylinder) and 5-bow Sensor(UP) Circuit



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CIRCUIT OPERATION

At closing operation, the convertible top control module applies current to the solenoid valve (5-bow cylinder) to control the hydraulic pressure to the 5-bow cylinder. As a result, the 5-bow is lowered. Then, when the 5-bow sensor (down) is turned ON, this control is terminated.

DTC SET CONDITION

This DTC is set when opening operation is performed and the 5-bow sensor (down) signal is not turned ON after the operation above continues for approximately 10 seconds.

TROUBLESHOOTING HINTS

- OFF failure of the 5-bow sensor (down)
- Malfunction of the solenoid valve (5-bow cylinder)
- Damaged harness wires and connectors
- Malfunction of hydraulic circuit
- Malfunction of the convertible top control module

NOTE: When OFF failure occurs in either 5-bow sensor (down), DTC B1302 or B1303 is set at the same time.

DIAGNOSIS

Required Special Tool

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable

TSB Revision

- MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

STEP 1. Using scan tool MB991958, read diagnostic trouble code.

Q: Is DTC B1302 or B1303 set?

YES : Perform the troubleshooting for DTC B1302/B1303 (Refer to P.42-148).
NO : Go to Step 2.

STEP 2. Check the convertible top operation.

When the convertible top is closed, check that the 5-bow lowers and stops in approximately 4 seconds.

Q: Does the 5-bow lower when the convertible top is opened?

YES (stops in approximately 4 seconds.) : Go to Step 3.
YES (stops in approximately 10 seconds.) : If it takes approximately 10 seconds to stop, the operation is stopped by the convertible top control module fail-safe function. In this case, the hydraulic circuit may be defective. Check the hydraulic circuit.
NO : Go to Step 5.

STEP 3. Using scan tool MB991958, check data list.

(1) Open the convertible top.
(2) Use scan tool MB991958 to check the following service data (Refer to P.42-236).
- Item 10: 5-bow sensor down (left)
- Item 11: 5-bow sensor down (right)

OK: "ON" appears.

Q: Is the check result satisfactory?

YES : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).
NO : Replace the 5-bow sensor (UP). Then go to Step 4.

STEP 4. Using scan tool MB991958, check data list.

Use scan tool MB991958 to recheck the following service data (Refer to P.42-236).
- Item 10: 5-bow sensor down (left)
- Item 11: 5-bow sensor down (right)

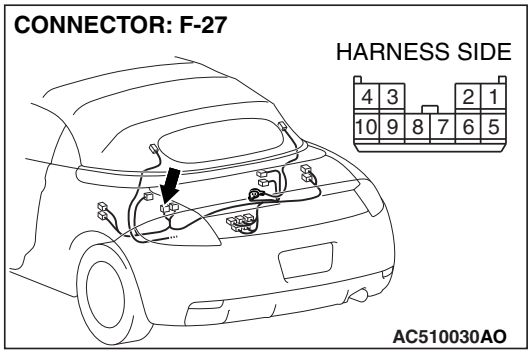
OK: "ON" appears.

Q: Is the check result satisfactory?

YES : This diagnosis is complete.
NO : Replace the convertible top control module.

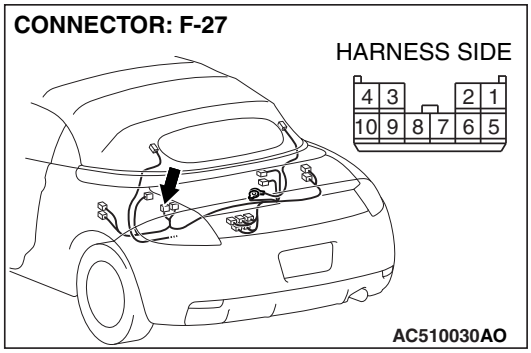
STEP 5. Check convertible top control module connector F-27 for loose, corroded or damaged terminals, or terminals pushed back in the connector.
Q: Is the check result satisfactory?

YES : Go to Step 6.
NO : Repair or replace the damaged component(s).



STEP 6. Measure the resistance at convertible top control module connector F-27.

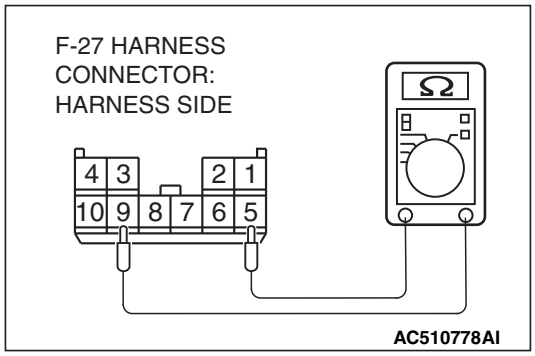
(1) Disconnect convertible top control module connector F-27, and measure at the wiring harness side.



(2) Measure the resistance between terminal 5 and 9.
- The measured value should be 5 – 7 Ω.

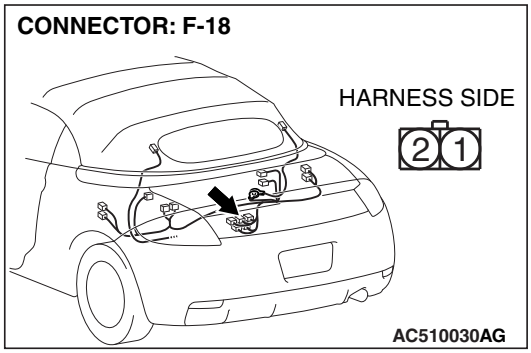
Q: Is the check result satisfactory?

YES : Go to Step 9.
NO : Go to Step 7.



STEP 7. Check solenoid valve (5-bow cylinder) connector F-18 for loose, corroded or damaged terminals, or terminals pushed back in the connector.
Q: Is the check result satisfactory?

YES : Go to Step 8.
NO : Repair or replace the damaged component(s).



STEP 8. Solenoid valve (5-bow cylinder) check

Check that the resistance value of the solenoid valve (5-bow cylinder) is within the standard value range.

Standard value: 5 – 7 Ω

Q: Is the check result satisfactory?

YES : Check the harness between convertible top control module connector F-27 (terminal 5, 9) and solenoid valve (5-bow cylinder) connector F-18 (terminal 2, 1). Repair as necessary.

NO : Replace the solenoid valve (5-bow cylinder).

STEP 9. Hydraulic circuit check

Check the hydraulic circuit to the 5-bow cylinder.

Q: Is the check result satisfactory?

YES : Go to Step 10.

NO : Repair or replace the damaged component(s).

STEP 10. Recheck the DTC.

Q: Is DTC B1317 set?

YES : Replace the convertible top control module.

NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1319 Pump motor protection timeout

DTC SET CONDITION

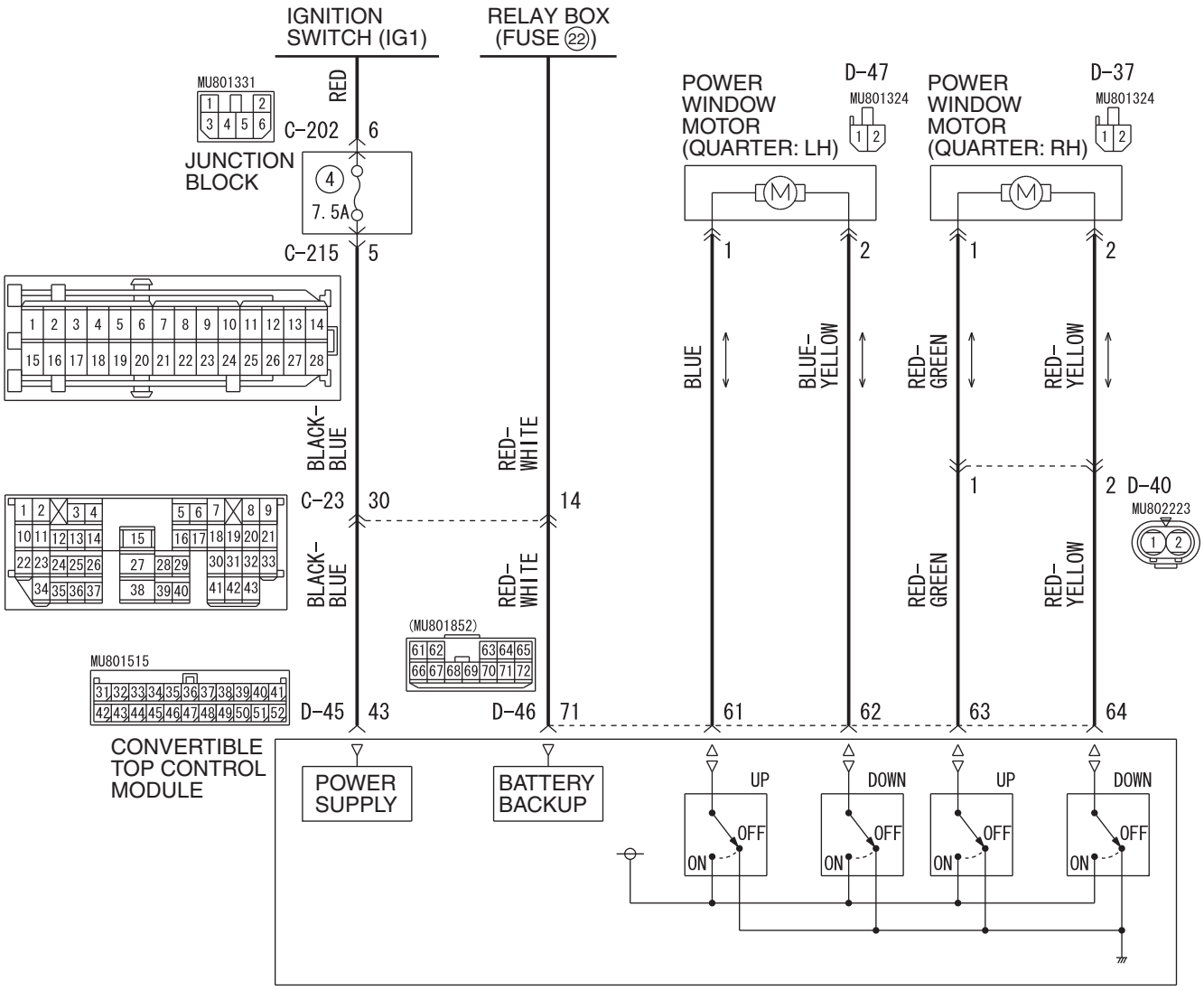
When the convertible top control module detects that the pump motor is continuously driven, it sets this DTC to protect the pump motor. When the judgment criteria for this DTC are satisfied, the convertible top control module stops the pump motor, outputs ON/OFF flash-signal repeatedly for approximately 1 minute to the operating solenoid valve, and then lowers the convertible top to a safe position.

TROUBLESHOOTING HINTS

This DTC does not indicate a fault in the system but is set to protect the pump motor from overload resulting from OPEN/CLOSE continuous operations.

DTC B1320 Quarter window cancel current

Power Window Motor(Quarter) Circuit



W7P42M010A

CIRCUIT OPERATION

At convertible top operation, the convertible top control module applies current to the power window motor (quarter) to lower the quarter window glass. When it detects the motor lock current from the power window motor (quarter), it determines that the quarter window glass is lowered to the end, and then stops this control.

DTC SET CONDITION

This DTC is set when the convertible top control module does not detect the motor lock current from the power window motor (quarter) after the convertible top control module applies current to the power window motor (quarter) for a specified period (approximately 10 seconds).

TROUBLESHOOTING HINTS

- Malfunction of the power window motor (quarter)
- Damaged harness wires and connectors
- Malfunction of the convertible top control module

TSB Revision

DIAGNOSIS

Required Special Tool

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

STEP 1. Retest the system.

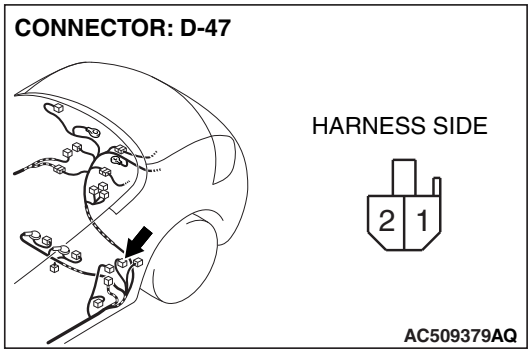
Q: Which power window does not operate, the left one or the right?

LH : Go to Step 2.
RH : Go to Step 6.
Both : Go to Step 10.

STEP 2. Check power window motor (quarter: LH) connector D-47 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 3.
NO : Repair or replace the damaged component(s).



STEP 3. Check the power window motor (quarter: LH).

Connect the power window motor (quarter: LH) to the battery.

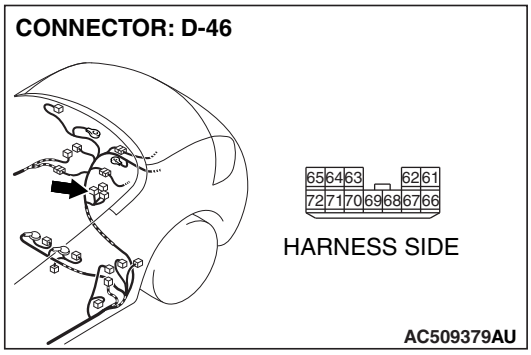
Q: Does the motor rotate?

YES : Go to Step 4.
NO : Replace the power window motor (quarter: LH).

STEP 4. Check convertible top control module connector D-46 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 5.
NO : Repair or replace the damaged component(s).



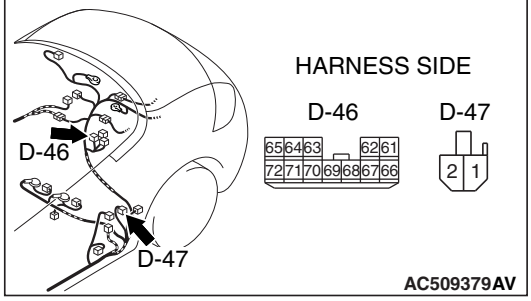
STEP 5. Check the harness between power window motor (quarter: LH) connector D-47 (terminal 1, 2) and convertible top control module connector D-46 (terminal 61, 62).

- Check for power supply and short circuit of the relevant harness.

Q: Is the check result satisfactory?

YES : Go to Step 12.
NO : Repair the harness wire.

CONNECTORS: D-46, D-47

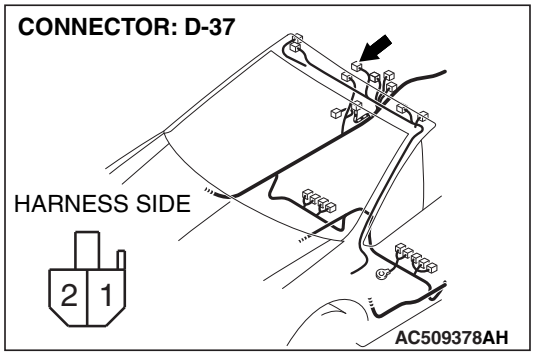


STEP 6. Check power window motor (quarter: RH) connector D-37 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 7.
NO : Repair or replace the damaged component(s).

CONNECTOR: D-37



STEP 7. Check the power window motor (quarter: RH).

Connect the power window motor (quarter: RH) to the battery.

Q: Does the motor rotate?

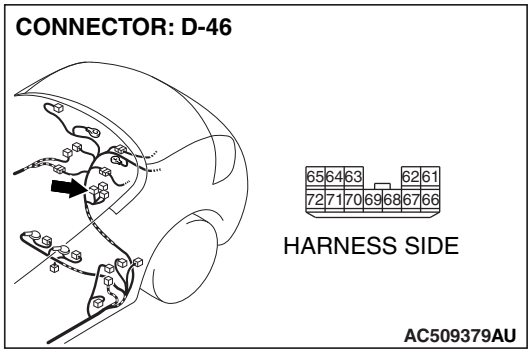
YES : Go to Step 8.
NO : Replace the power window motor (quarter: RH).

STEP 8. Check convertible top control module connector D-46 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 9.
NO : Repair or replace the damaged component(s).

CONNECTOR: D-46



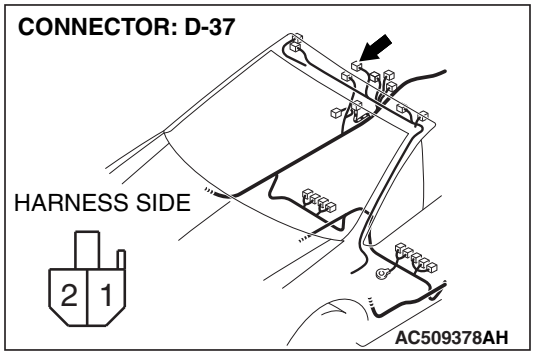
STEP 9. Check the harness between power window motor (quarter: LH) connector D-37 (terminal 1, 2) and convertible top control module connector D-46 (terminal 63, 64).

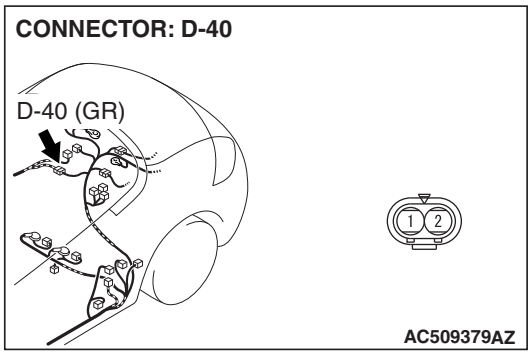
- Check for power supply and short circuit of the relevant harness.

NOTE: Before the wiring harness check, check the intermediate connector D-40, and repair if necessary.

Q: Is the check result satisfactory?

YES : Go to Step 12.
NO : Repair the harness wire.

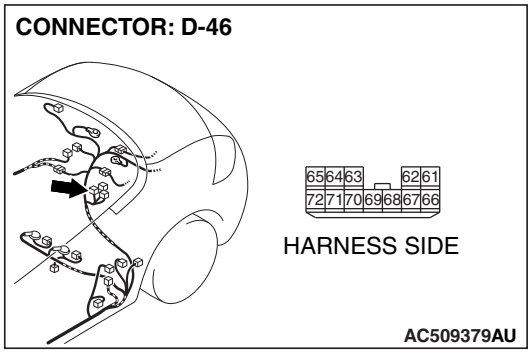




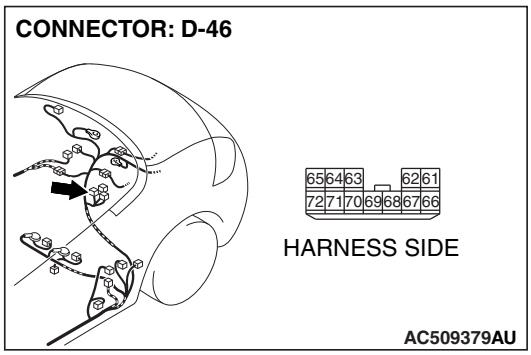
STEP 10. Check convertible top control module connector D-46 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

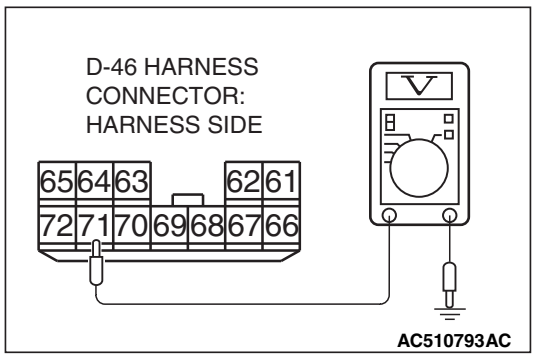
YES : Go to Step 11.
NO : Repair or replace the damaged component(s).



STEP 11. Measure the voltage at convertible top control module connector D-46.



(1) Disconnect convertible top control module connector D-46, and measure at the wiring harness side.
(2) Turn the ignition switch to the "ON" position.



(3) Measure the voltage between terminal 71 and ground.
- The measured value should be approximately 12 volts (battery positive voltage).

Q: Is the check result satisfactory?

YES : Go to Step 10.
NO : Check the wiring harness between convertible top control module connector D-46 (terminal 71) and power window relay. Repair as necessary.

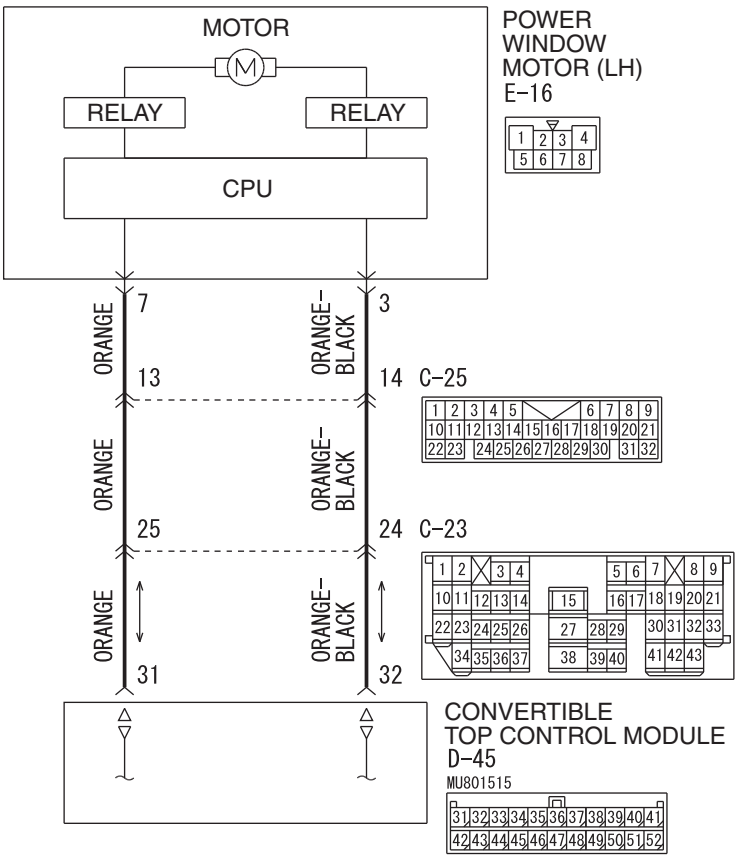
STEP 12. Recheck the DTC.

Q: Is DTC B1320 set?

YES : Replace the convertible top control module.
NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1321 Comm.error (DR P/W ECU)

Power Window Motor(LH) Circuit



W7P42M011A

CIRCUIT OPERATION

During convertible top operation, the convertible top control module communicates with the power window motor (LH) to lower the front window glass. When the convertible top is not operating, it drives the quarter window glass according to the signal from the power window motor (LH).

DTC SET CONDITION

This DTC is set when an error occurs in the communication between the convertible top control module and the power window motor (LH).

TROUBLESHOOTING HINTS

- Malfunction of the power window motor (LH)
- Damaged harness wires and connectors
- Malfunction of the convertible top control module

DIAGNOSIS

Required Special Tool

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

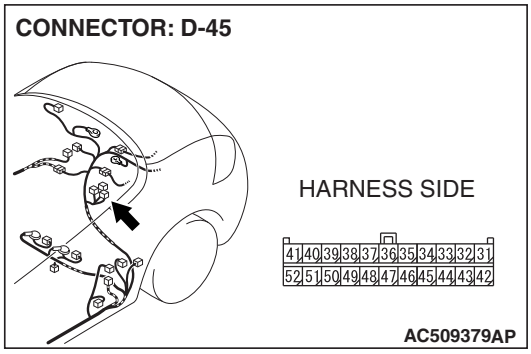
TSB Revision

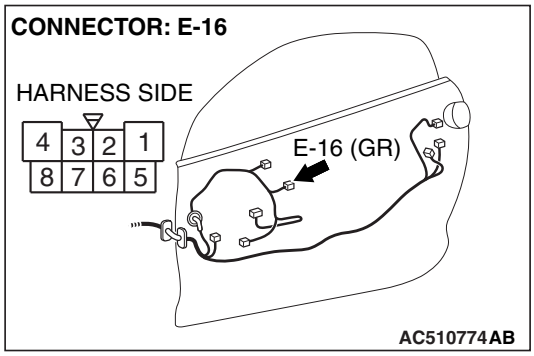
STEP 1. Check convertible top control module connector D-45 and power window motor (LH) connector E-16 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 2.

NO : Repair or replace the damaged component(s).





STEP 2. Check the harness between power window motor (LH) connector E-16 (terminal 7, 3) and convertible top control module connector D-45 (terminal 31, 32).

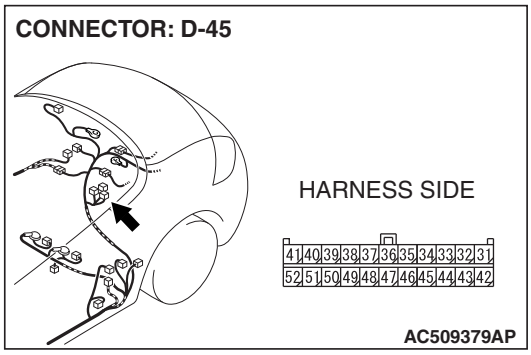
- Check for power supply and short circuit of the relevant harness.

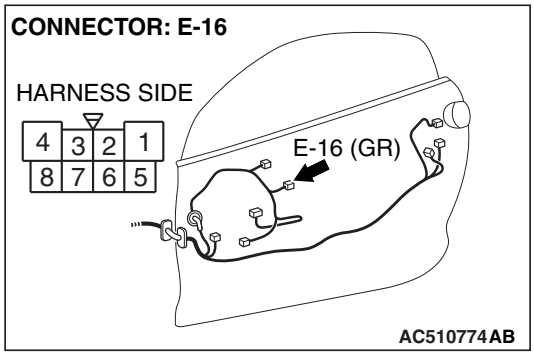
NOTE: Before the wiring harness check, check the intermediate connectors C-25 and C-23, and repair if necessary.

Q: Is the check result satisfactory?

YES : Replace the power window motor (LH). Then go to Step 3.

NO : Repair the harness wire.





STEP 3. Recheck the DTC.

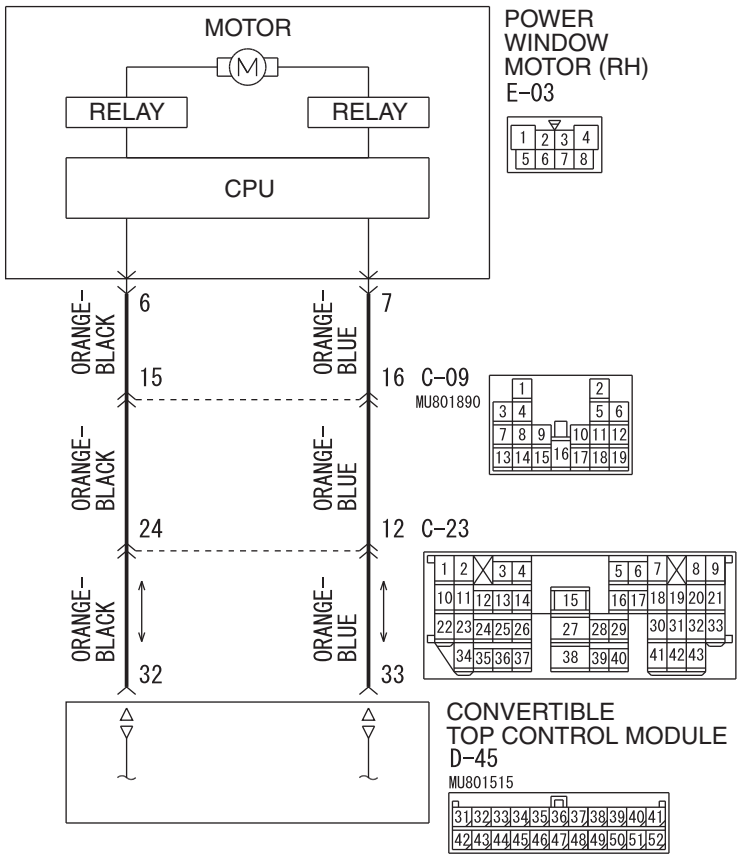
Q: Is DTC B1321 set?

YES : Replace the convertible top control module.

NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1322 Comm.error (AS P/W ECU)

Power Window Motor(RH) Circuit



W7P42M012A

CIRCUIT OPERATION

During convertible top operation, the convertible top control module communicates with the power window motor (RH) to lower the front window glass. When the convertible top is not operating, it drives the quarter window glass according to the signal from the power window motor (RH).

DTC SET CONDITION

This DTC is set when an error occurs in the communication between the convertible top control module and the power window motor (RH).

TROUBLESHOOTING HINTS

- Malfunction of the power window motor (RH)
- Damaged harness wires and connectors
- Malfunction of the convertible top control module

TSB Revision

DIAGNOSIS

Required Special Tool

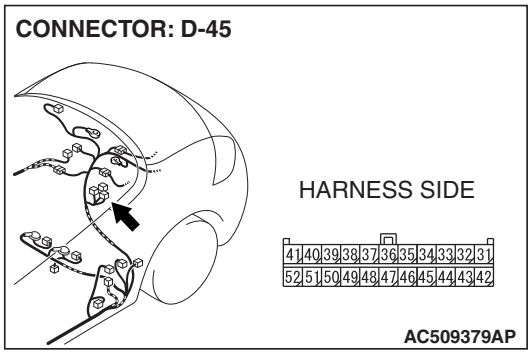
- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

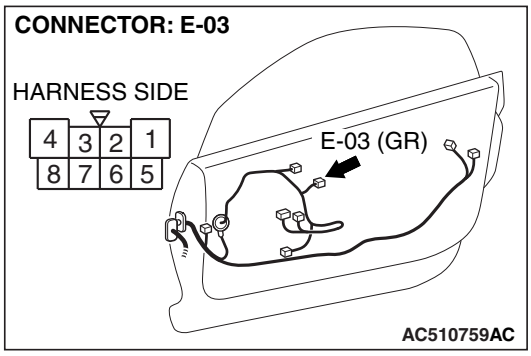
STEP 1. Check convertible top control module connector D-45 and power window motor (RH) connector E-03 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

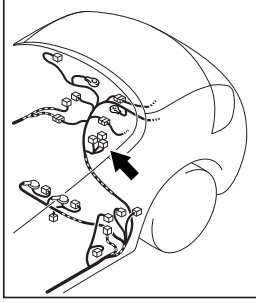
YES : Go to Step 2.

NO : Repair or replace the damaged component(s).

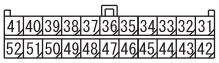




CONNECTOR: D-45



HARNESS SIDE



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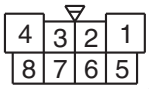
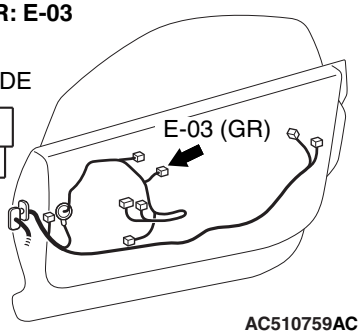
CONNECTOR: E-03

HARNESS SIDE





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STEP 2. Check the harness between power window motor (RH) connector E-03 (terminal 6, 7) and convertible top control module connector D-45 (terminal 32, 33).

- Check for power supply and short circuit of the relevant harness.

NOTE: Before the wiring harness check, check the intermediate connectors C-09 and C-23, and repair if necessary.

Q: Is the check result satisfactory?

YES : Replace the power window motor (RH). Then go to Step 3.

NO : Repair the harness wire.

STEP 3. Recheck the DTC.

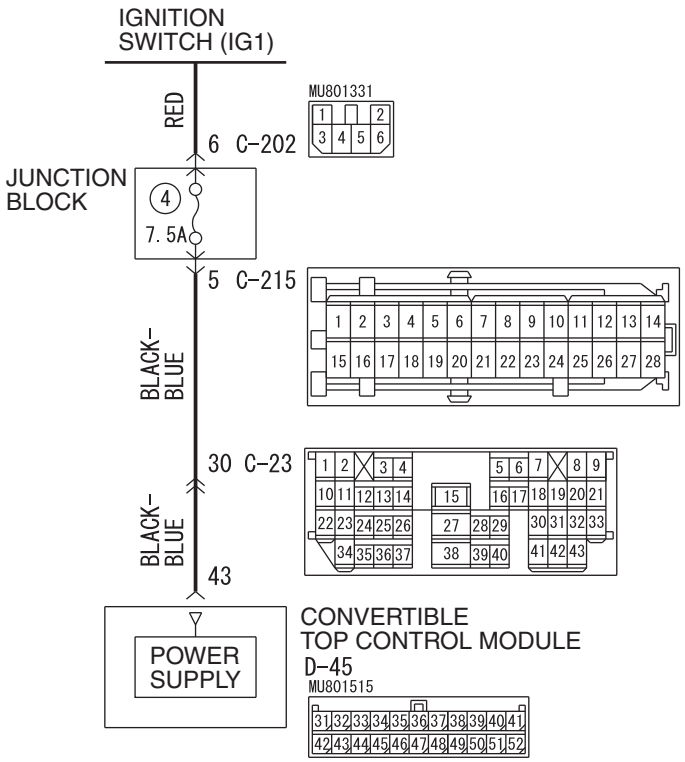
Q: Is DTC B1322 set?

YES : Replace the convertible top control module.

NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1323 IG1 SW input

Ignition Switch(IG1) Circuit



W7P42M013A

CIRCUIT OPERATION

Power for the convertible top control module is supplied by the power window relay, and the ignition switch (IG1) inputs ON/OFF signal only as the necessary information for control.

DTC SET CONDITION

When ON signal is not input from the ignition switch (IG1) though the power is supplied by the power window relay, an error in the ignition switch (IG1) signal line is suspected and this DTC is set.

TROUBLESHOOTING HINTS

- Malfunction of the ignition switch (IG1) signal line
- Malfunction of the convertible top control module

DIAGNOSIS

Required Special Tool

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

TSB Revision

STEP 1. Using scan tool MB991958, check data list.

Use scan tool MB991958 to check the following service data (Refer to P.42-236).

- Item 05: IG1 SW

OK: "ON" appears when the ignition switch is turned to the ON position.

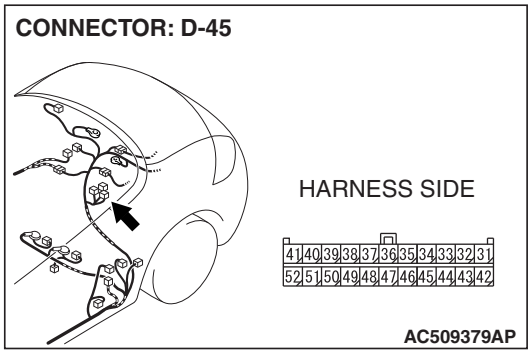
Q: Is the check result satisfactory?

YES : Go to Step 2.
NO : Go to Step 4.

STEP 2. Check convertible top control module connector D-45 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

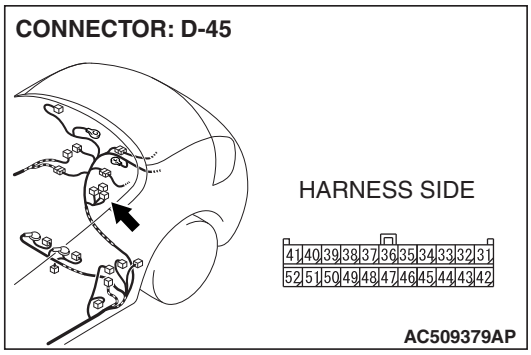
Q: Is the check result satisfactory?

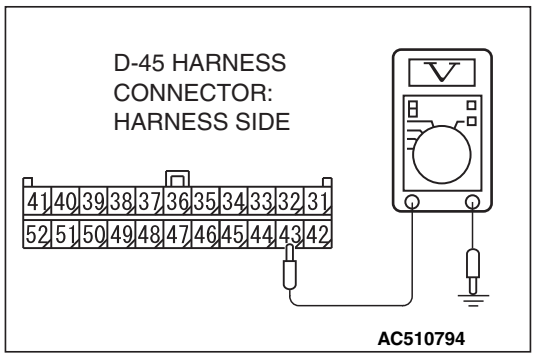
YES : Go to Step 3.
NO : Repair or replace the damaged component(s).



STEP 3. Measure the voltage at convertible top control module connector D-45.

(1) Disconnect convertible top control module connector D-45, and measure at the wiring harness side.
(2) Turn the ignition switch to the "ON" position.





(3) Measure the voltage between terminal 43 and ground.
- The measured value should be approximately 12 volts (battery positive voltage).

Q: Is the check result satisfactory?

YES : Go to Step 4.
NO : Check the wiring harness between convertible top control module connector D-45 (terminal 43) and ignition switch (IG1). Repair as necessary.

STEP 4. Recheck the DTC.

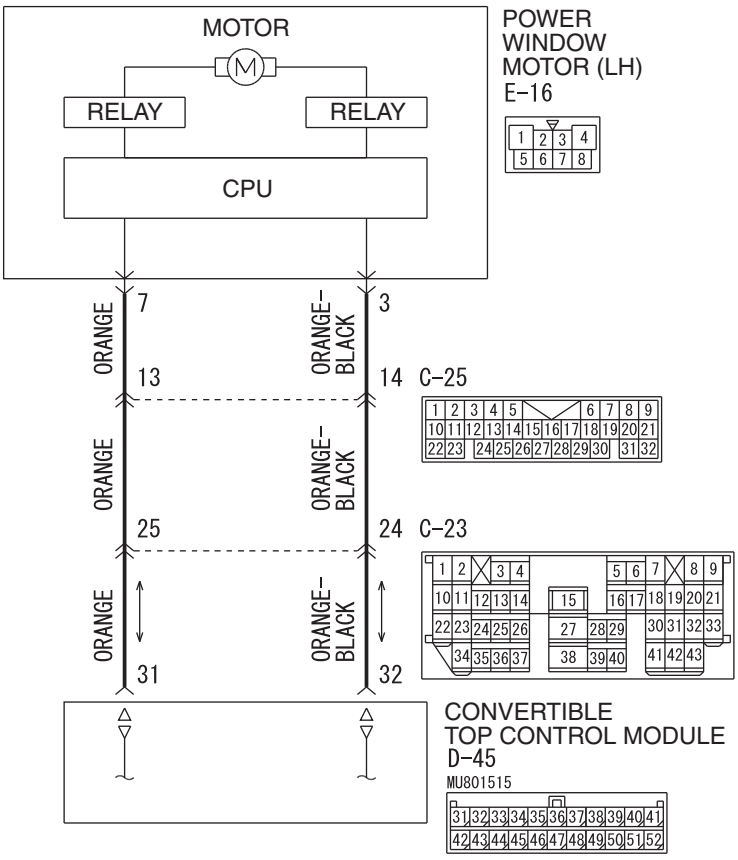
Q: Is DTC B1322 set?

YES : Replace the convertible top control module.

NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1324 Driver Side P/W ECU

Power Window Motor(LH) Circuit



W7P42M011A

CIRCUIT OPERATION

During convertible top operation, the convertible top control module communicates with the power window motor (LH) to lower the front window glass. When the convertible top is not operating, it drives the quarter window glass according to the signal from the power window motor (LH).

DTC SET CONDITION

During convertible top operation, when an auto-down completion signal is not input even if approximately three seconds has passed after the convertible top control module outputs the auto-down signal to the power window motor (LH), this DTC is set.

TROUBLESHOOTING HINTS

- Malfunction of the power window motor (LH)
- Damaged harness wires and connectors
- Malfunction of the convertible top control module

TSB Revision

DIAGNOSIS

Required Special Tool

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

STEP 1. Retest the system.

Q: Does the power window operate satisfactorily by the power window switch?

YES : Perform troubleshooting on the power window (Refer to P.42-33).

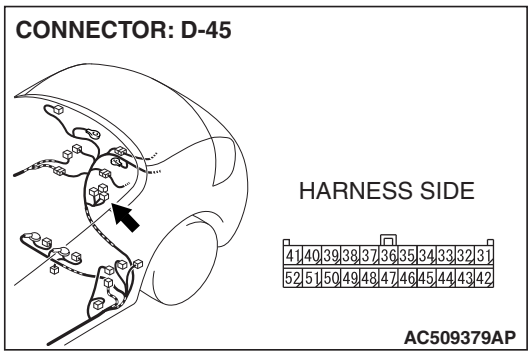
NO : Go to Step 2.

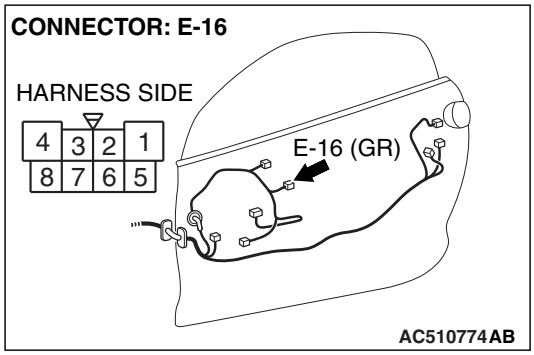
STEP 2. Check convertible top control module connector D-45 and power window motor (LH) connector E-16 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

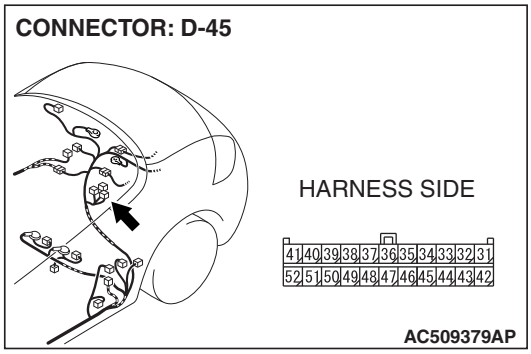
Q: Is the check result satisfactory?

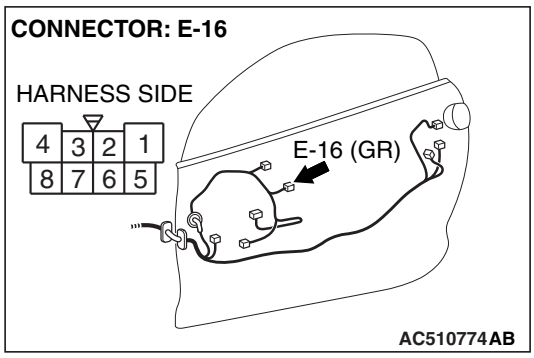
YES : Go to Step 3.

NO : Repair or replace the damaged component(s).









STEP 3. Check the harness between power window motor (LH) connector E-16 (terminal 7, 3) and convertible top control module connector D-45 (terminal 31, 32).

- Check for power supply and short circuit of the relevant harness.

NOTE: Before the wiring harness check, check the intermediate connectors C-25 and C-23, and repair if necessary.

Q: Is the check result satisfactory?

YES : Replace the power window motor (LH). Then go to Step 4.

NO : Repair the harness wire.

STEP 4. Recheck the DTC.

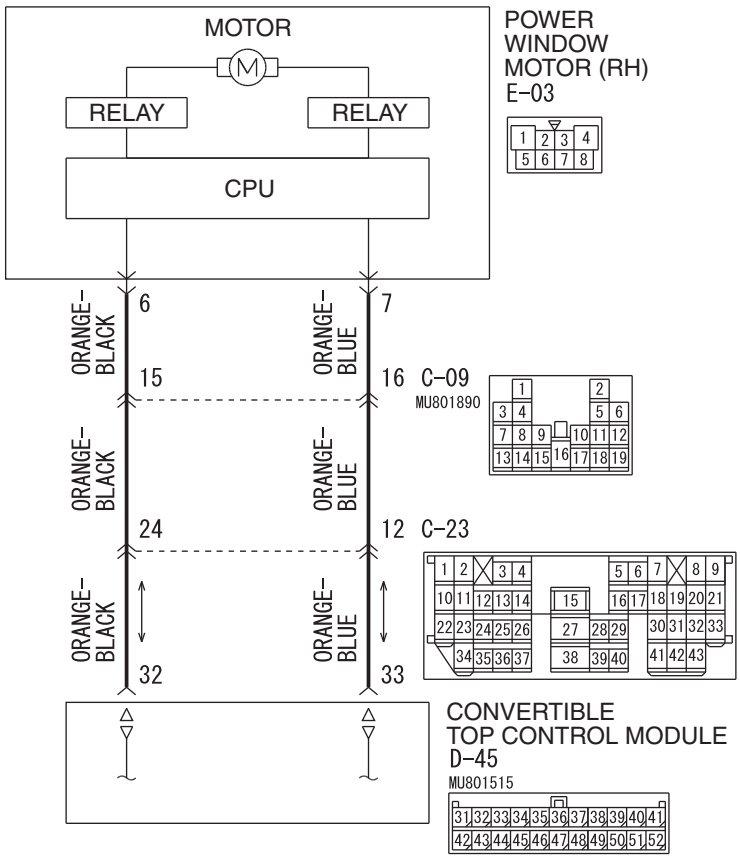
Q: Is DTC B1324 set?

YES : Replace the convertible top control module.

NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1325 Assist Side P/W ECU

Power Window Motor(RH) Circuit



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CIRCUIT OPERATION

During convertible top operation, the convertible top control module communicates with the power window motor (RH) to lower the front window glass. When the convertible top is not operating, it drives the quarter window glass according to the signal from the power window motor (RH).

DTC SET CONDITION

During convertible top operation, when an auto-down completion signal is not input even if approximately three seconds has passed after the convertible top control module outputs the auto-down signal to the power window motor (RH), this DTC is set.

TROUBLESHOOTING HINTS

- Malfunction of the power window motor (RH)
- Damaged harness wires and connectors
- Malfunction of the convertible top control module

DIAGNOSIS

Required Special Tool

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

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STEP 1. Retest the system.

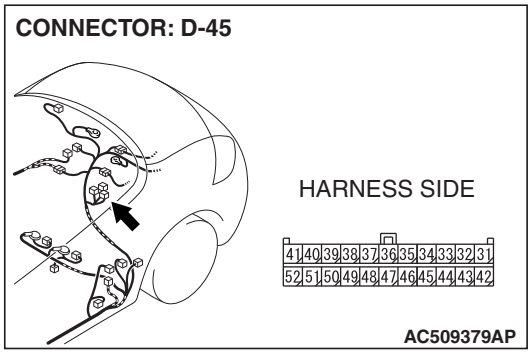
Q: Does the power window operate satisfactorily by the power window switch?

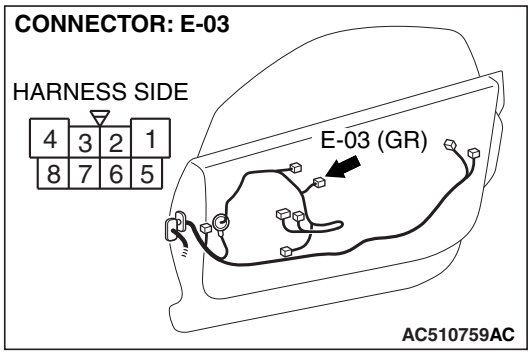
YES : Perform troubleshooting on the power window.
NO : Go to Step 2.

STEP 2. Check convertible top control module connector D-45 and power window motor (RH) connector E-03 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

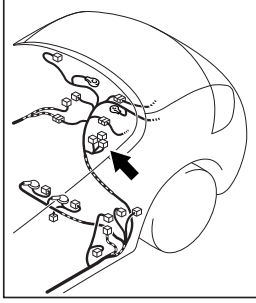
Q: Is the check result satisfactory?

YES : Go to Step 3.
NO : Repair or replace the damaged component(s).

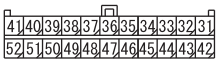




CONNECTOR: D-45



HARNESS SIDE



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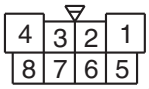
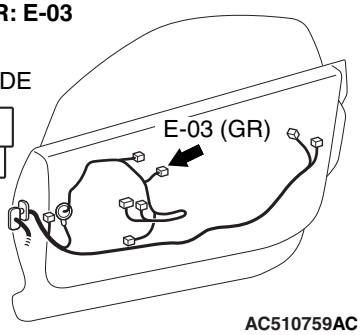
CONNECTOR: E-03

HARNESS SIDE





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STEP 3. Check the harness between power window motor (RH) connector E-03 (terminal 6, 7) and convertible top control module connector D-45 (terminal 32, 33).

- Check for power supply and short circuit of the relevant harness.

NOTE: Before the wiring harness check, check the intermediate connectors C-09 and C-23, and repair if necessary.

Q: Is the check result satisfactory?

YES : Replace the power window motor (RH). Then go to Step 4.

NO : Repair the harness wire.

STEP 4. Recheck the DTC.

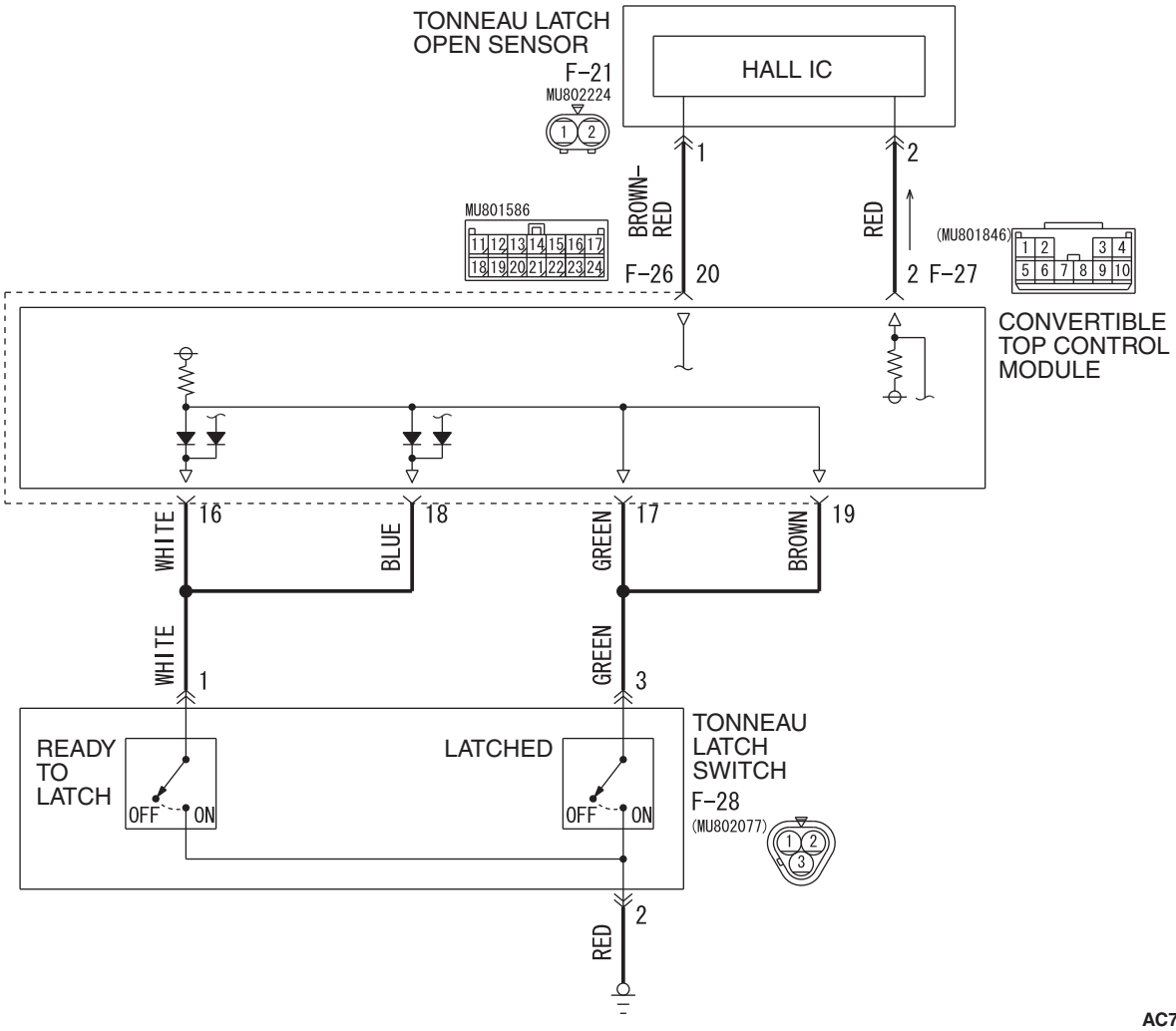
Q: Is DTC B1324 set?

YES : Replace the convertible top control module.

NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1326 TN latch sensor: Close&Open=ON

Tonneau Latch Switch and Tonneau Latch Open Sensor Circuit



CIRCUIT OPERATION

The convertible top control module judges the tonneau latch state based on the signals from the tonneau latch switches (latched) and the tonneau latch open sensor provided on the tonneau latch cylinder. The tonneau latch open sensor and tonneau latch switch (latched) output the following signals to the convertible top control module according to the tonneau latch state.

Item	Convertible top state		
	Close	Operating Tonneau latch: Open	Open
Tonneau latch switch (latched)	ON	OFF	ON
Tonneau latch open sensor	OFF	ON	OFF

TSB Revision

DTC SET CONDITION

This DTC is set when the signals from tonneau latch switch (latched) and the tonneau latch open sensor are turned ON simultaneously.

TROUBLESHOOTING HINTS

- ON failure of tonneau latch switch (latched) (including short circuit of signal line)
- ON failure of tonneau latch open sensor (including defective sensor power supply line or signal line)
- Malfunction of the convertible top control module

NOTE: When ON failure occurs in tonneau latch switch (latched), DTC B1307 or B1308 is set at the same time.

DIAGNOSIS

Required Special Tool

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB992006: Extra fine probe

STEP 1. Using scan tool MB991958, read diagnostic trouble code.

Q: Is DTC B1307 or B1308 set?

YES <DTC B1307 is set> : Perform troubleshooting for DTC B1307.
YES <DTC B1308 is set> : Perform troubleshooting for DTC B1308.
NO : Go to Step 2.

STEP 2. Using scan tool MB991958, check data list.

(1) Close the convertible top.
(2) Use scan tool MB991958 to check the following service data (Refer to P.42-236).
- Item 19: Tonneau latch open sensor

OK: "OFF" appears.

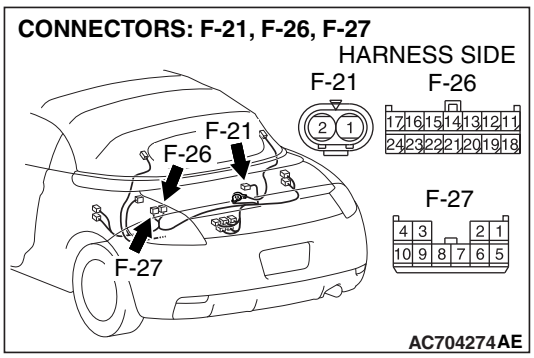
Q: Is the check result satisfactory?

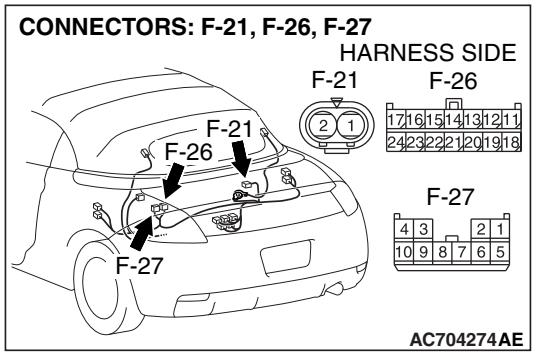
YES : Go to Step 6.
NO : Go to Step 3.

STEP 3. Check convertible top control module connector F-26, F-27 and tonneau latch open sensor connector F-21 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 4.
NO : Repair or replace the damaged component(s).





STEP 4. Check the harness between convertible top control module connector F-26 (terminal 20) and Tonneau latch open sensor connector F-21 (terminal 1), and between convertible top control module connector F-27 (terminal 2) and Tonneau latch open sensor connector F-21 (terminal 2).

- Check the tonneau latch open sensor power supply lines and signal lines for open or short circuit.

Q: Is the check result satisfactory?

YES : Replace the tonneau latch open sensor. Then go to Step 5.
NO : Repair the harness wire.

STEP 5. Using scan tool MB991958, check data list.

Use scan tool MB991958 to check the following service data (Refer to P.42-236).

- Item 19: Tonneau latch open sensor

OK: "OFF" appears.

Q: Is the check result satisfactory?

YES : The procedure is complete.
NO : Replace the convertible top control module.

STEP 6. Recheck the DTC.

Q: Is DTC B1310 set?

YES : Replace the convertible top control module.
NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

DTC B1340 EEPROM Error

DTC SET CONDITION

The convertible top control module writes the DTC memory on the EEPROM inside the ECU and at the same time reads the information as needed. This DTC is set when writing on or reading from the EEPROM is not performed normally.

TROUBLESHOOTING HINT

- Malfunction of the convertible top control module

DIAGNOSIS

Replace the convertible top control module.

DTC U1073 Bus Off

⚠ CAUTION
If DTC U1073 is set, be sure to diagnose the CAN bus line.

⚠ CAUTION
When replacing the ECU, always check that the communication circuit is normal.

DTC SET CONDITION

If the CAN circuit malfunction occurs, the convertible top control module sets DTC U1073.

PROBABLE CAUSES

Malfunction of CAN bus line

DIAGNOSIS

STEP 1. Recheck the DTC.

Q: Is DTC U1073 set?

YES : Go to Step 2.
NO : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

STEP 2. Using scan tool MB991958, diagnose the CAN bus line.

Q: Is the check result normal?

YES : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).
NO : Repair the CAN bus line (Refer to GROUP 54C, Diagnosis P.54C-17).

SYMPTOM CHART

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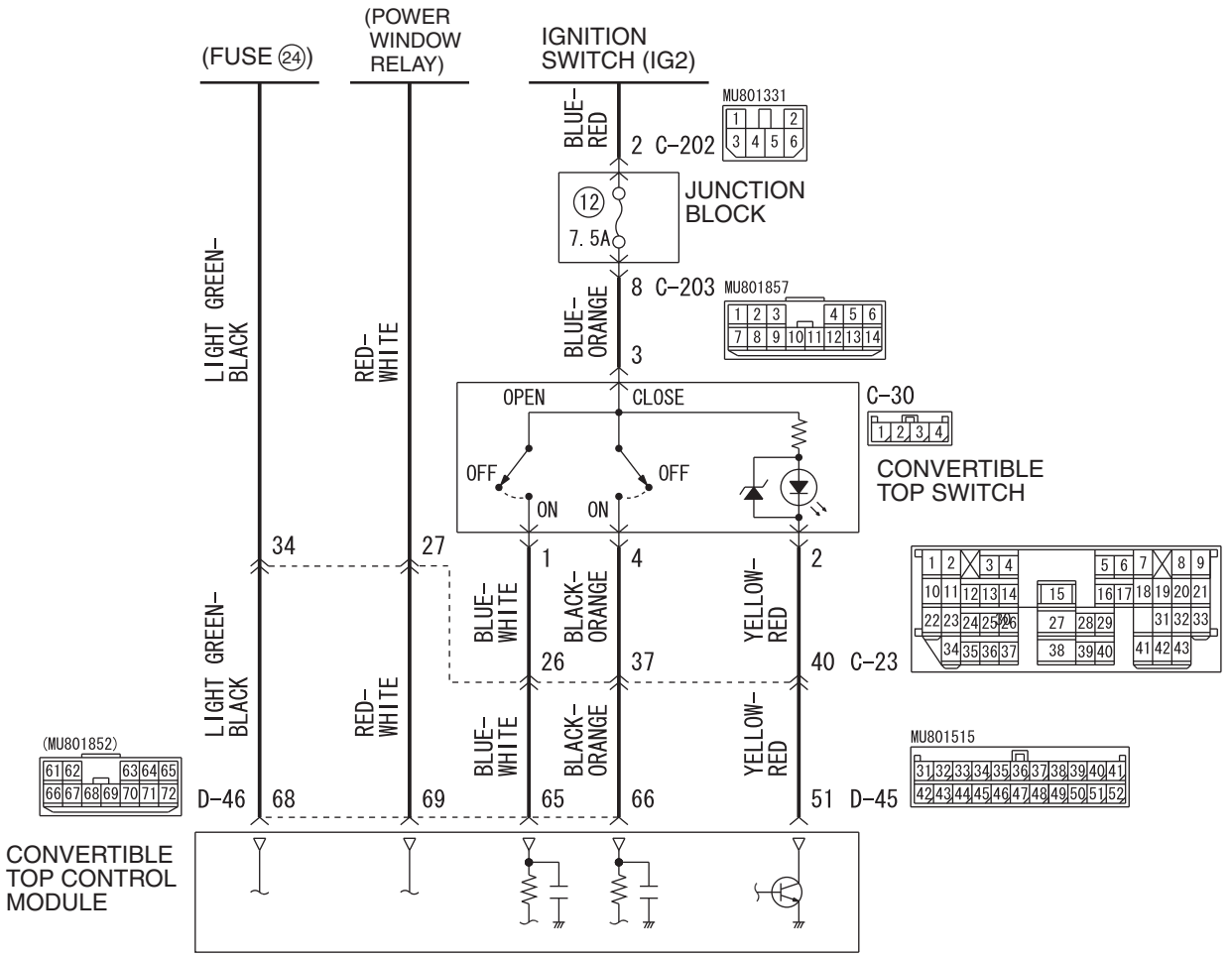
Symptoms	Inspection procedure	Reference page
Convertible top does not operate.	1	P.42-223
Pump motor does not operate.	2	P.42-228
Pump motor does not stop.	3	P.42-234

SYMPTOM PROCEDURES <OIL PRESSURE SYSTEM AND/OR ELECTRICAL SYSTEM>

INSPECTION PROCEDURE 1: Convertible Top does not Operate.

Convertible Top Switch Circuit, Convertible Top Control Module Power Supply Circuit



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CIRCUIT OPERATION

- The power supply of convertible top control module is supplied by the power window relay.
- The convertible top control module receives the OPEN and CLOSE signals of convertible top switch by the separate circuits.
- The OPEN signal and the CLOSE signal are received by the ECU terminals No. 65 and No. 66 respectively.

TROUBLESHOOTING HINTS

- Malfunction of convertible top control module power supply line
- Malfunction of convertible top switch OPEN or CLOSE signal line
- Malfunction of convertible top switch
- Malfunction of convertible top control module

TSB Revision

DIAGNOSIS

Required Special Tool

- MB991958: Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827: M.U.T.-III USB Cable
  - MB991910: M.U.T.-III Main Harness A
- MB991223(MB991222): Harness set (Probe)
- MB992006: Extra fine probe

STEP 1. Using scan tool MB991958, read diagnostic trouble code.

Q: Is DTC set?

YES : Perform the troubleshooting for DTC (Refer to P.42-138).

NO (Communication with scan tool is not possible.) : Go to Step 2.

NO (No DTC is set.) : Go to Step 4.

STEP 2. Using scan tool MB991958, diagnose the CAN bus line.

Q: Is the convertible top control module only displayed as a trouble symptom by the results of CAN bus line diagnostics?

YES : Go to Step 3.

NO : Repair the CAN bus line (Refer to GROUP 54C, Diagnosis P.54C-17).

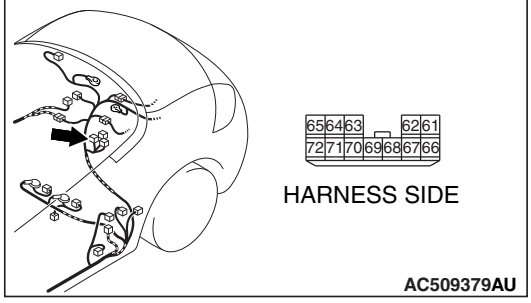
STEP 3. Check convertible top control module connector D-46 for loose, corroded or damaged terminal, or terminals pushed back in connector.

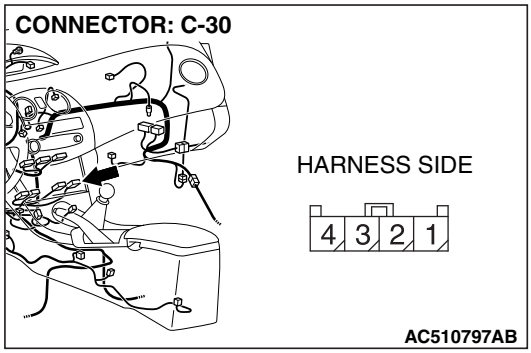
Q: Is the check result satisfactory?

YES : Check the harness between convertible top control module connector D-46 (terminal 69) and power window relay. Repair as necessary.

NO : Repair and replace the damaged component(s).

CONNECTOR: D-46





STEP 4. Check convertible top switch connector C-30 for loose, corroded or damaged terminal, or terminals pushed back in connector.

Q: Is the check result satisfactory?

YES : Go to Step 5.

NO : Repair or replace the damaged component(s).

STEP 5. Convertible top switch check

Check for continuity at the convertible top switch.

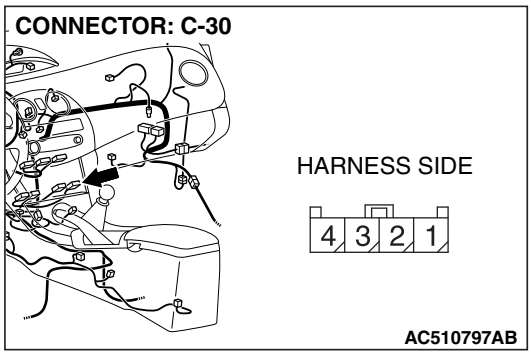
Switch position	Tester connection	Specified condition
OPEN switch OFF	1 - 3	No continuity
OPEN switch ON		Continuity exists (2 Ω or less)
CLOSE switch OFF	3 - 4	No continuity
CLOSE switch ON		Continuity exists (2 Ω or less)

Q: Is the check result satisfactory?

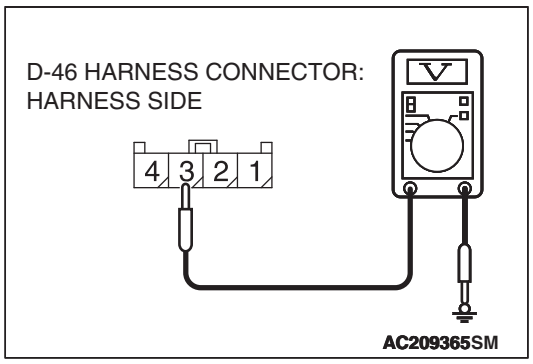
YES : Go to Step 6.

NO : Replace the convertible top switch.

STEP 6. Measure the voltage at convertible top switch connector C-30.



(1) Disconnect convertible top switch connector C-30, and measure at the wiring harness side.
(2) Turn the ignition switch to the "ON" position.

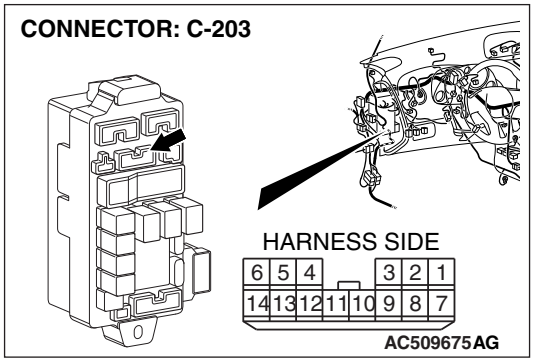


(3) Measure the voltage between terminal 3 and ground.
- The measured value should be approximately 12 volts (battery positive voltage).

Q: Is the check result satisfactory?

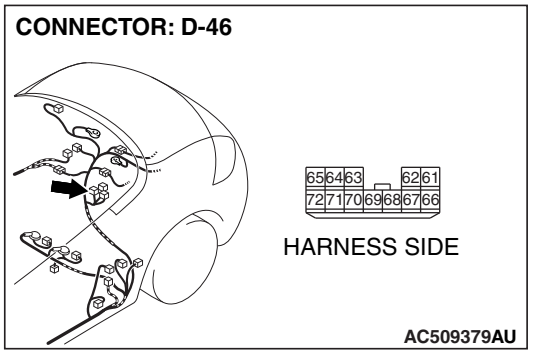
YES : Go to Step 7.
NO : Check the harness between convertible top switch connector C-30 (terminal 3) and ignition switch (IG2). Repair as necessary.

STEP 7. Check convertible top control module connector D-46 and intermediate connector C-203 for loose, corroded or damaged terminals, or terminals pushed back in the connector.



Q: Is the check result satisfactory?

YES : Go to Step 8.
NO : Repair and replace the damaged component(s).

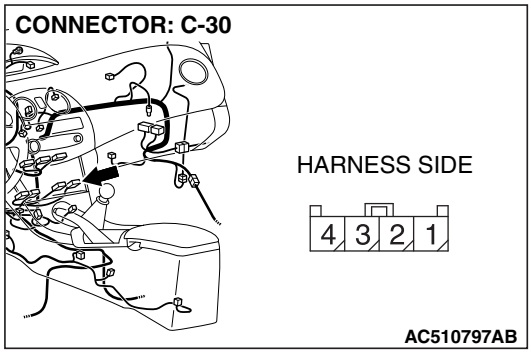


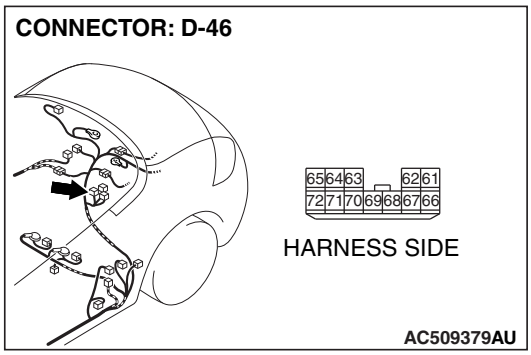
STEP 8. Check the wiring harness between convertible top control module connector D-46 (terminal 65, 66) and convertible top switch connector C-30 (terminal 1, 4).

Q: Is the check result satisfactory?

YES : Go to Step 9.

NO : Repair the wiring harness.





STEP 9. Retest the system.

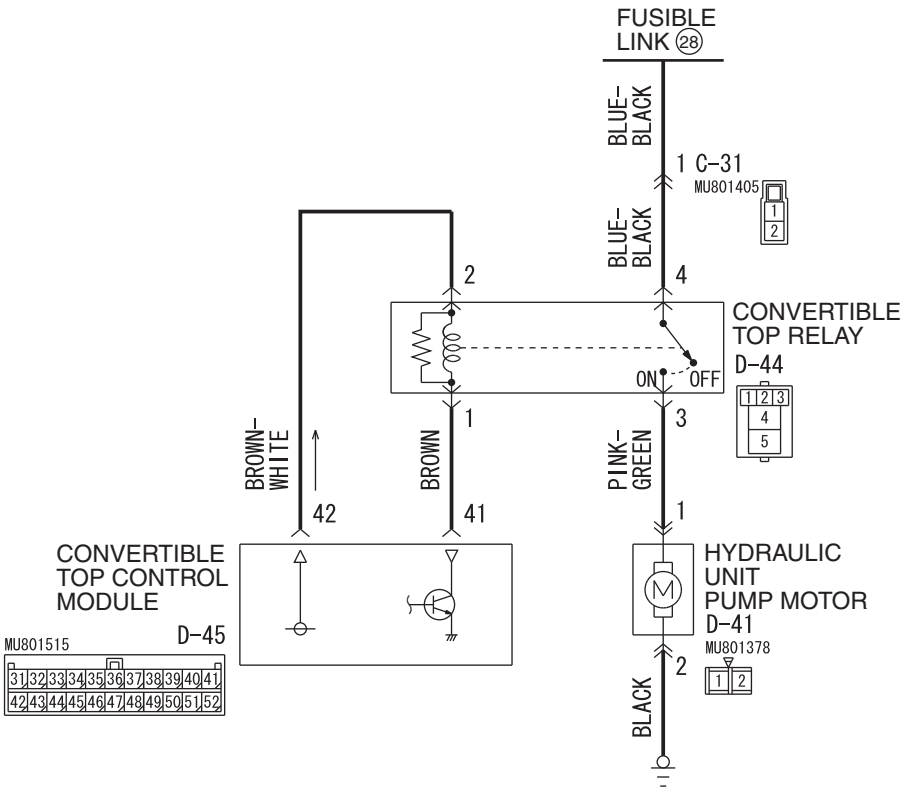
Q: Does the convertible top operate?

YES : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/Inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

NO : Replace the convertible top control module.

INSPECTION PROCEDURE 2: Pump motor does not operate.

Pump Motor Circuit



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CIRCUIT OPERATION

Power for the convertible top pump motor is supplied by the convertible top relay. The convertible top control module turns ON/OFF the convertible top relay by turning ON/OFF the transistor in the ECU to control the convertible top pump motor.

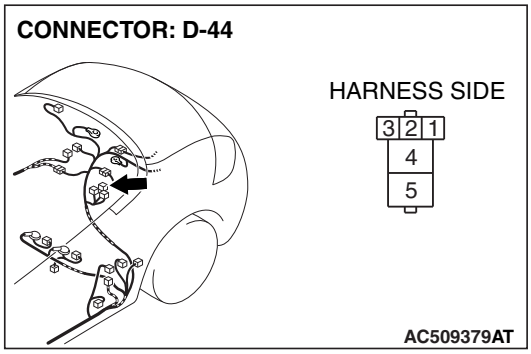
TROUBLESHOOTING HINTS

- Malfunction of the convertible top relay
- Malfunction of the convertible top pump motor
- Damaged harness wires and connectors
- Malfunction of the convertible top control module

DIAGNOSIS

Required Special Tool

- MB991958 Scan Tool (M.U.T.-III Sub Assembly)
  - MB991824: V.C.I.
  - MB991827 M.U.T.-III USB Cable
  - MB991910 M.U.T.-III Main Harness A
- MB991223 (MB991222): Harness set (Probe)
- MB992006: Extra fine probe



STEP 1. Check convertible top relay connector D-44 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 2.

NO : Repair or replace the damaged component(s).

STEP 2. Convertible top relay check

Battery voltage	Tester connection	Specified condition
Not applied	3 – 4	No continuity
• Connect terminal 1 to the negative battery terminal • Connect terminal 2 to the positive battery terminal		Continuity exists. (2 Ω or less)

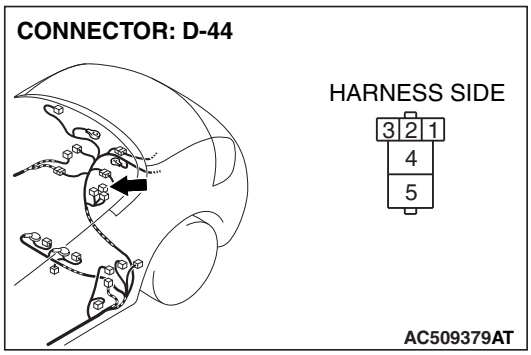
Q: Is the check result satisfactory?

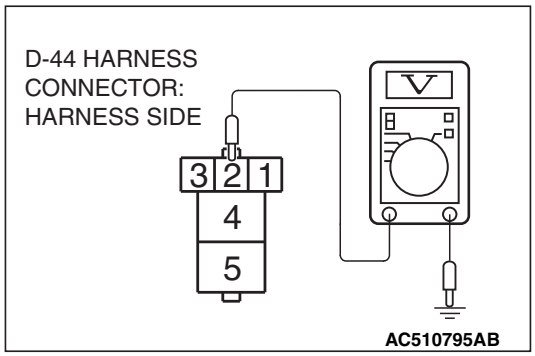
YES : Go to Step 3.

NO : Replace the convertible top relay.

STEP 3. Measure the voltage at convertible top relay connector D-44.

(1) Disconnect convertible top relay connector D-44, and measure at the wiring harness side.
(2) Turn the ignition switch to the "ON" position.





(3) Measure the voltage between terminal 2 and ground.
- The measured value should be approximately 12 volts (battery positive voltage).

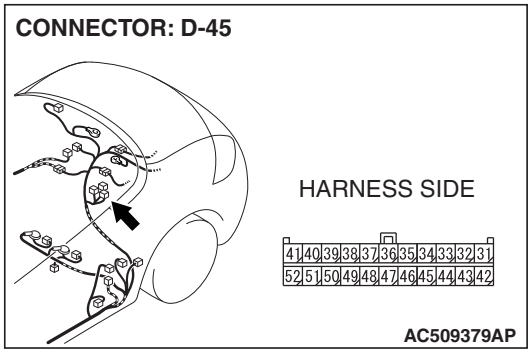
Q: Is the check result satisfactory?

YES : Go to Step 6.
NO : Go to Step 4.

STEP 4. Check convertible top control module connector D-45 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 5.
NO : Repair or replace the damaged component(s).

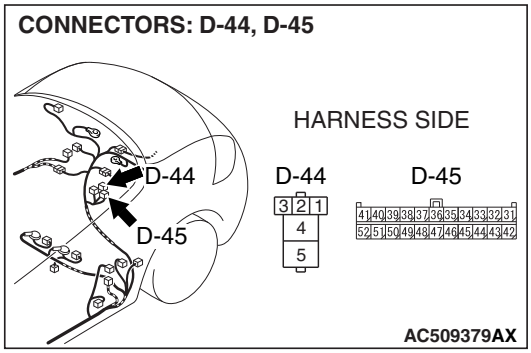


STEP 5. Check the harness between convertible top control module connector D-45 (terminal 42) and convertible top relay connector D-44 (terminal 2).

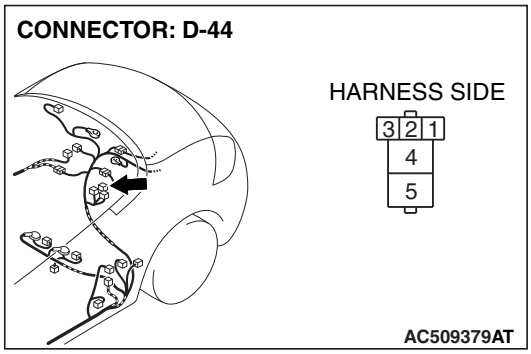
- Check the relevant harness for open or short circuit.

Q: Is the check result satisfactory?

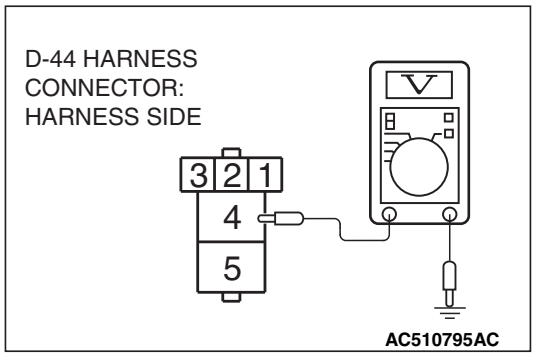
YES : Go to Step 13.
NO : Repair the harness wire.



STEP 6. Measure the voltage at convertible top relay connector D-44.



(1) Disconnect convertible top relay connector D-44, and measure at the wiring harness side.
(2) Turn the ignition switch to the "ON" position.

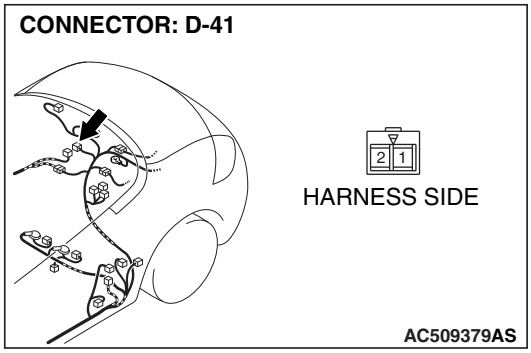


(3) Measure the voltage between terminal 4 and ground.
- The measured value should be approximately 12 volts (battery positive voltage).

Q: Is the check result satisfactory?

YES : Go to Step 7.
NO : Check the wiring harness between convertible top relay connector D-44 (terminal 4) and fusible link No.28. Repair as necessary.

STEP 7. Check convertible top motor connector D-41 for loose, corroded or damaged terminals, or terminals pushed back in the connector.



Q: Is the check result satisfactory?

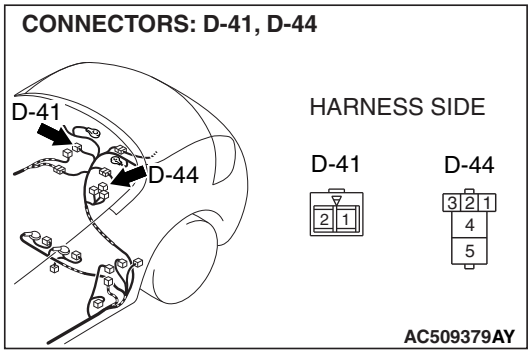
YES : Go to Step 8.
NO : Repair or replace the damaged component(s).

STEP 8. Convertible top motor check

Connect the battery to the terminal of convertible top motor connector D-41.
- Connect terminal 1 to the positive battery terminal
- Connect terminal 2 to the negative battery terminal

Q: Does the motor rotate?

YES : Go to Step 9.
NO : Replace the convertible top motor.

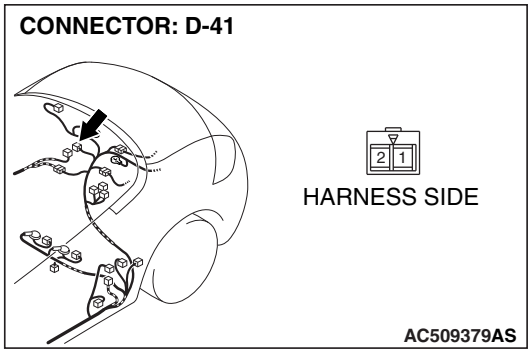


STEP 9. Check the harness between convertible top motor connector D-41 (terminal 1) and convertible top relay connector D-44 (terminal 3).

- Check the relevant harness for open or short circuit.

Q: Is the check result satisfactory?

YES : Go to Step 10.
NO : Repair the harness wire.

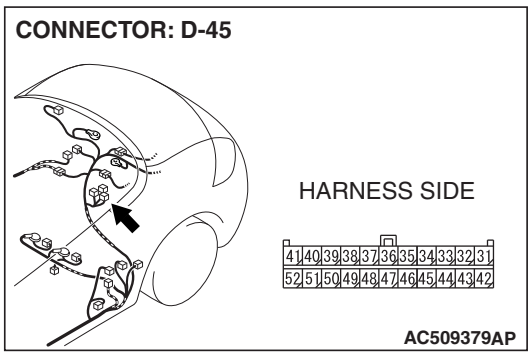


STEP 10. Check the harness between convertible top motor connector D-41 (terminal 2) and ground.

- Check the wiring harness for open circuit.

Q: Is the check result satisfactory?

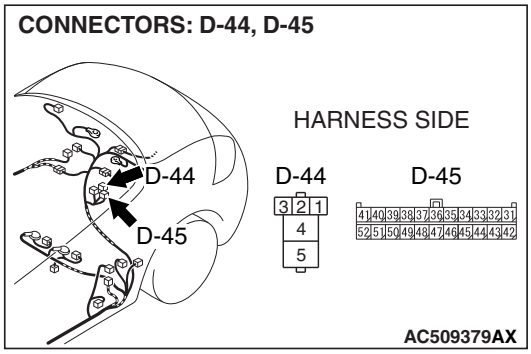
YES : Go to Step 11.
NO : Repair the harness wire.



STEP 11. Check convertible top control module connector D-45 for loose, corroded or damaged terminals, or terminals pushed back in the connector.

Q: Is the check result satisfactory?

YES : Go to Step 12.
NO : Repair or replace the damaged component(s).



STEP 12. Check the harness between convertible top control module connector D-45 (terminal 41) and convertible top relay connector D-44 (terminal 1).

- Check the wiring harness for open circuit.

Q: Is the check result satisfactory?

YES : Go to Step 13.

NO : Repair the harness wire.

STEP 13. Retest the system.

Check that the motor starts to run.

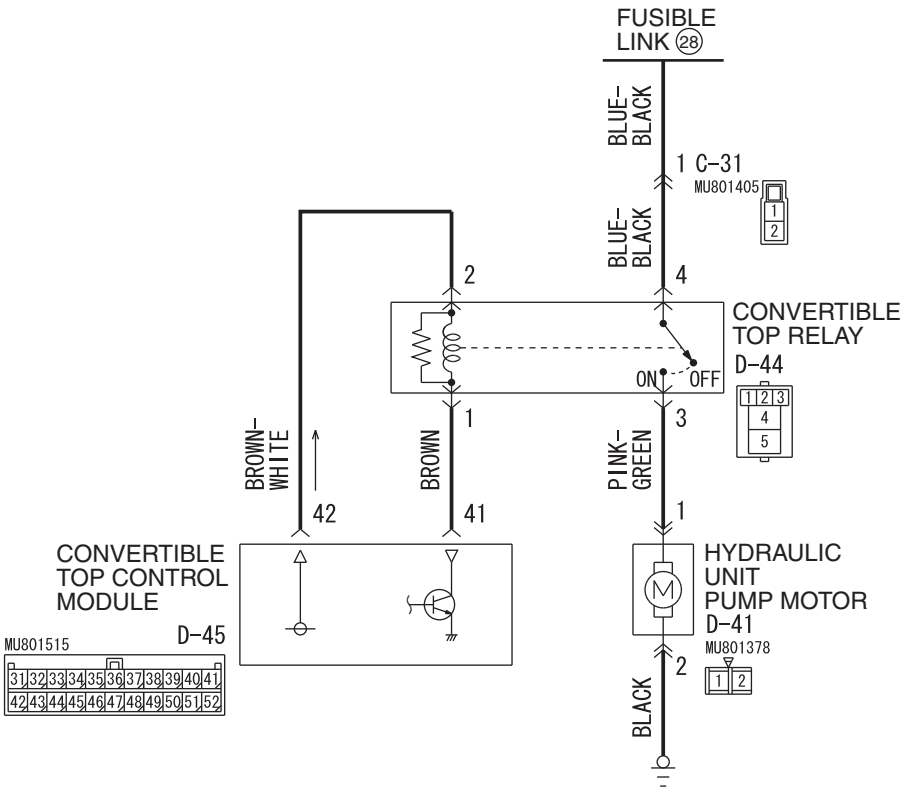
Q: Is the check result satisfactory?

YES : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).

NO : Replace the convertible top control module connector.

INSPECTION PROCEDURE 3: Pump Motor does not Stop.

Pump Motor Circuit



W7P42M015A

CIRCUIT OPERATION

Power for the convertible top pump motor is supplied by the convertible top relay. The convertible top control module turns ON/OFF the convertible top relay by turning ON/OFF the transistor in the ECU to control the convertible top pump motor.

TROUBLESHOOTING HINTS

- Malfunction of the convertible top relay
- Damaged harness wires and connectors
- Malfunction of the convertible top control module

DIAGNOSIS

STEP 1. Retest the system.

Check that the pump motor stops when the convertible top relay is removed.

Q: Does the pump motor stop?

YES : Go to Step 2.
NO : Go to Step 4.

STEP 2. Convertible top relay check

Battery voltage	Tester connection	Specified condition
Not applied	3 – 4	No continuity
• Connect terminal 1 to the negative battery terminal • Connect terminal 2 to the positive battery terminal		Continuity exists. (2 Ω or less)

Q: Is the check result satisfactory?

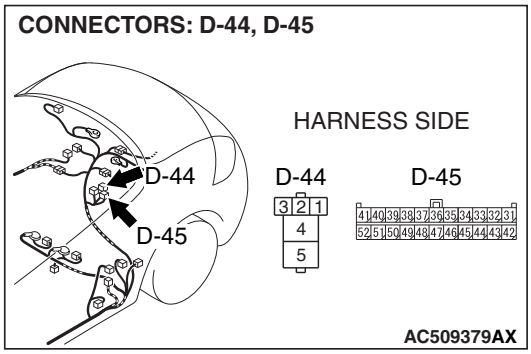
YES : Go to Step 3.
NO : Replace the convertible top relay.

STEP 3. Check the harness between convertible top control module connector D-45 (terminal 41) and convertible top relay connector D-44 (terminal 1).

- Check the wiring harness for short circuit.

Q: Is the check result satisfactory?

YES : Replace the convertible top control module connector.
NO : Repair the harness wire.

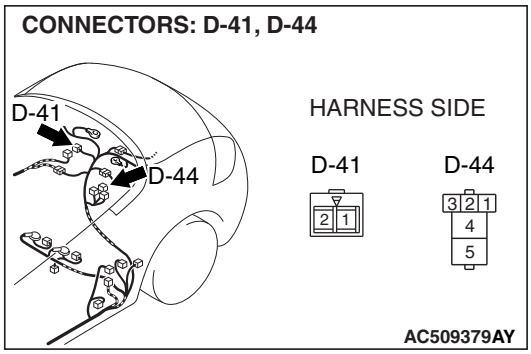


STEP 4. Check the harness between convertible top motor connector D-41 (terminal 1) and convertible top relay connector D-44 (terminal 3).

- Check the relevant harness for short circuit to the power supply.

Q: Is the check result satisfactory?

YES : Intermittent malfunction (Refer to GROUP 00, How to use Troubleshooting/inspection Service Points, How to Cope with Intermittent Malfunction P.00-14).
NO : Repair the harness wire.



DATA LIST REFERENCE TABLE

M1426213600017

The following items can be read by the scan tool from the convertible top control module input data.

M.U.T.-III scan tool display	Item No.	Check item	Checking requirements	Normal value
Topstack SW (open)	01	Convertible top switch (open)	Convertible Top switch (open) ON	ON
			Convertible Top switch (open) OFF	OFF
Topstack SW (close)	02	Convertible Top switch (close)	Convertible Top switch (close) ON	ON
			Convertible Top switch (close) OFF	OFF
Driver side P/W SW	03	Driver side power window switch	Driver side power window switch OFF	OFF
			Driver side power window switch Up	Up
			Driver side power window switch Down	Down
Assist side P/W SW	04	Assist side power window switch	Driver side power window switch OFF	OFF
			Driver side power window switch Up	Up
			Driver side power window switch Down	Down
IG1 SW input	05	Ignition switch (IG1) input	Ignition switch OFF (LOCK)	OFF
			Ignition switch ON	ON
Trunk latch SW	06	Trunk lid latch switch	Trunk lid open	OPEN
			Trunk lid close	CLOSE
Latch handle sensor (left)	07	Header latch switch (LH)	Header latch lever LOCK	ON
			Header latch lever UNLOCK	OFF
Latch handle sensor (right)	08	Header latch switch (RH)	Header latch lever LOCK	ON
			Header latch lever UNLOCK	OFF
5bow up sensor	09	5-bow sensor (UP: RH)	5-bow CLOSE	OFF
			5-bow OPEN	ON
5bow down sensor (left)	10	5bow sensor (DOWN: LH)	5-bow CLOSE	ON
			5-bow OPEN	OFF
5bow down sensor (right)	11	5bow sensor (DOWN: RH)	5-bow CLOSE	ON
			5-bow OPEN	OFF
Topstack position up sensor	12	Convertible top position switch (UP)	Convertible top CLOSE	ON
			Convertible top OPEN	OFF
Topstack position down sensor	13	Convertible Top position down sensor	Convertible top CLOSE	OFF
			Convertible top OPEN	ON

TSB Revision

M.U.T.-III scan tool display	Item No.	Check item	Checking requirements	Normal value
Tonneau panel open sensor	14	Tonneau sensor (drive cylinder: UP)	Tonneau panel CLOSE	OFF
			Tonneau panel OPEN	ON
Tonneau panel close sensor (LH)	15	Tonneau latch switch (LH: ready to latch)	• Tonneau panel CLOSE • Tonneau latch UNLOCK	ON
			• Tonneau panel CLOSE • Tonneau latch LOCK	OFF
Tonneau panel close sensor (RH)	16	Tonneau latch switch (RH: ready to latch)	• Tonneau panel CLOSE • Tonneau latch UNLOCK	ON
			• Tonneau panel CLOSE • Tonneau latch LOCK	OFF
Tonneau latch close sensor (LH)	17	Tonneau latch switch (LH: latched)	• Tonneau panel CLOSE • Tonneau latch LOCK	ON
			• Tonneau panel CLOSE • Tonneau latch UNLOCK	OFF
Tonneau latch close sensor (RH)	18	Tonneau latch switch (RH: latched)	• Tonneau panel CLOSE • Tonneau latch LOCK	ON
			• Tonneau panel CLOSE • Tonneau latch UNLOCK	OFF
Tonneau latch open sensor	19	Tonneau latch open sensor	Tonneau latch UNLOCK	ON
			Tonneau latch LOCK	OFF
P/W operation prohibition flag	20	Power window operation prohibition flag	Power windows is operating.	ON
			Power windows is not operating.	OFF
Topstack SW ON flag	21	Convertible Top switch ON flag	Convertible Top switch (OPEN or CLOSE) ON	ON
			Convertible Top switch (OPEN and CLOSE) OFF	OFF
Quarter P/W (LH) up detection flag	22	Power Window (quarter LH) up detection flag	Power Window (quarter LH) UP	ON
			Power Window (quarter LH) DOWN or STOP	OFF
Quarter P/W (RH) up detection flag	23	Power Window (quarter RH) up detection flag	Power Window (quarter RH) UP	ON
			Power Window (quarter RH) DOWN or STOP	OFF
DR.P/W input (All window A.down)	24	Power window (driver's side all window auto down) switch signal input	Power window main switch (driver's side AUTO DOWN) ON	ON
			Power window main switch (driver's side AUTO DOWN) OFF	OFF
DR.P/W input (Topstack prohibit)	25	Power window (driver's side) switch signal input (convertible top prohibit)	Power window main switch (driver's side AUTO DOWN, DOWN or UP) ON	ON
			Power window main switch (driver's side AUTO DOWN, DOWN or UP) OFF	OFF

M.U.T.-III scan tool display	Item No.	Check item	Checking requirements	Normal value
DR.P/W input (Window up)	26	Power window (driver's side) switch signal input (Window up)	Power window main switch (driver's side UP) ON	ON
			Power window main switch (driver's side UP) OFF	OFF
DR.P/W input (Window down)	27	Power window (driver's side) switch signal input (Window down)	Power window main switch (driver's side DOWN) ON	ON
			Power window main switch (driver's side DOWN) OFF	OFF
DR.P/W input (Comm.error)	28	Power window (driver's side) switch signal input (communication error)	Power window main switch (driver's side AUTO DOWN, DOWN or UP) ON	ON
			Power window main switch (driver's side AUTO DOWN, DOWN or UP) OFF	OFF
AS.P/W input (All window A.down)	29	–	–	OFF
AS.P/W input (Topstack prohibit)	30	Power window (passenger's side) switch signal input (convertible top prohibit)	Power window main switch (passenger's side DOWN or UP) or power window sub switch (DOWN or UP) ON	ON
			Power window main switch (passenger's side DOWN or UP) or power window sub switch (DOWN or UP) OFF	OFF
AS.P/W input (Window up)	31	Power window (passenger's side) switch signal input (Window up)	Power window main switch (passenger's side UP) or power window sub switch (UP) ON	ON
			Power window main switch (passenger's side UP) or power window sub switch (UP) OFF	OFF
AS.P/W input (Window down)	32	Power window (passenger's side) switch signal input (Window down)	Power window main switch (passenger's side DOWN) or power window sub switch (DOWN) ON	ON
			Power window main switch (passenger's side DOWN) or power window sub switch (DOWN) OFF	OFF
AS.P/W input (Comm.error)	33	Power window (passenger's side) switch signal input (Communication error)	Power window main switch (passenger's side DOWN or UP) or power window sub switch (DOWN or UP) ON	ON
			Power window main switch (passenger's side DOWN or UP) or power window sub switch (DOWN or UP) OFF	OFF

M.U.T.-III scan tool display	Item No.	Check item	Checking requirements	Normal value
Vehicle speed	34	Vehicle speed signal	Road test the vehicle	The speedometer and scan tool MB991958 display the same value.
Hall sensor power voltage	35	Hall sensor power voltage		Battery positive voltage
Quarter P/W (LH) current	36	Power Window (quarter LH) current		0 – 40 A (It changes by operating power window.)
Quarter P/W (RH) current	37	Power Window (quarter RH) current		0 – 40 A (It changes by operating power window.)
Power supply voltage	38	Power supply voltage		Battery positive voltage

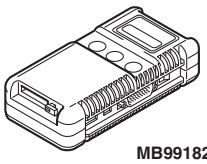
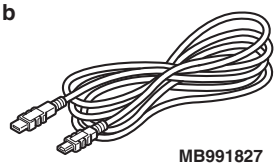
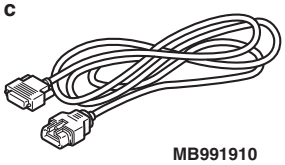
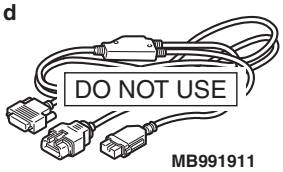
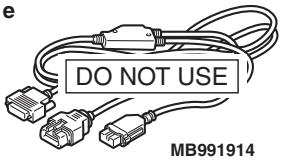
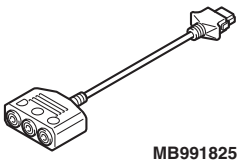
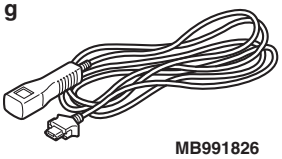
ACTUATOR TEST REFERENCE TABLE

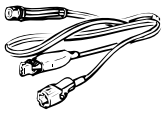
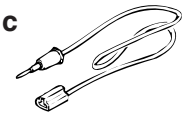
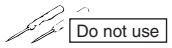
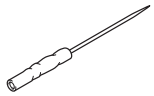
M1426213700014

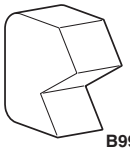
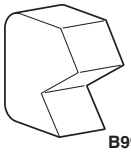
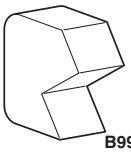
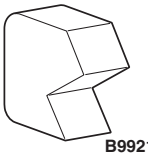
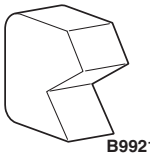
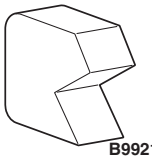
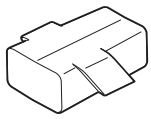
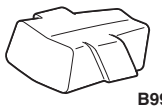
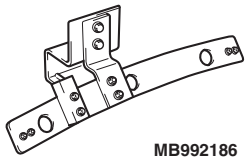
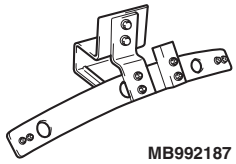
M.U.T.-III scan tool display	Item No.	Inspection item	Drive content
Quarter P/W(LH) up	01	Closing operation of the power window (quarter LH)	Power window (quarter LH) OPEN → CLOSE
Quarter P/W(LH) down	02	Opening operation of the power window (quarter LH)	Power window (quarter LH) CLOSE → OPEN
Quarter P/W(RH) up	03	Closing operation of the power window (quarter RH)	Power window (quarter RH) OPEN → CLOSE
Quarter P/W(RH) down	04	Opening operation of the power window (quarter RH)	Power window (quarter RH) CLOSE → OPEN
Buzzer ON	09	Buzzer signal	Buzzer sounds.
Indicator ON	10	Convertible top switch indicator	Convertible top switch indicator lights.
Solenoid valve	11	Solenoid valve F1, F2, F3, F4 and F5 operation	–

SPECIAL TOOLS

M1423000600746

Tool	Tool number and name	Supersession	Application
a  MB991824 b  MB991827 c  MB991910 d  MB991911 e  MB991914 f  MB991825 g  MB991826 MB991958	MB991958 a. MB991824 b. MB991827 c. MB991910 d. MB991911 e. MB991914 f. MB991825 g. MB991826 M.U.T.-III sub assembly a. Vehicle communication interface (V.C.I.) b. M.U.T.-III USB cable c. M.U.T.-III main harness A (Vehicles with CAN communication system) d. M.U.T.-III main harness B (Vehicles without CAN communication system) e. M.U.T.-III main harness C (for Chrysler models only) f. M.U.T.-III measurement adapter g. M.U.T.-III trigger harness	MB991824-KIT *NOTE: g: MB991826 M.U.T.-III trigger harness is not necessary when pushing V.C.I. ENTER key.*	**⚠ CAUTION** **For vehicles with CAN communication, use M.U.T.-III main harness A to send simulated vehicle speed. If you connect M.U.T.-III main harness B instead, the CAN communication does not function correctly.** For registration of secret code

Tool	Tool number and name	Supersession	Application
a b  c  d  Do not use MB991223	MB991223 Harness set a. MB991219 Test harness b. MB991220 LED harness c. MB991221 LED harness adapter d. MB991222 Probe	General service tools	Making voltage and resistance measurement during troubleshooting a: Connector pin contact pressure inspection b: Power circuit inspection c: Power circuit inspection d: Commercial tester connection
 MB992006	MB992006 Extra fine probe	General service tool	Making voltage and resistance measurement during troubleshooting
a MB992051 b MB992052 MB992050AC	MB992050 Delta glass adjust block set a: MB992051 Delta glass adjust block a b: MB992052 Delta glass adjust block b	–	Adjustment of delta window glass

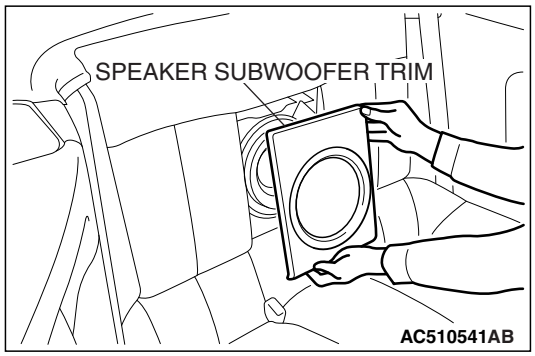
Tool	Tool number and name	Supersession	Application
g  B992165 h  B992166 i  B992167 j  B992168 k  B992169 l  B992170 B992164AC	MB992164 Glass adjust block set g: MB992165 Glass adjust block g h: MB992166 Glass adjust block h i: MB992167 Glass adjust block i j: MB992168 Glass adjust block j k: MB992169 Glass adjust block k l: MB992170 Glass adjust block l	–	Adjustment of front door window glass and quarter window glass
a  B992172 b  B992173 B992171AC	MB992171 Retainer adjust block set a: MB992172 Retainer adjust block a b: MB992173 Retainer adjust block b	–	Adjustment of convertible top weather strip holder
 MB992186	MB992186 Retainer setting hanger LH	–	Adjustment of convertible top weather strip holder
 MB992187	MB992187 Retainer setting hanger RH	–	Adjustment of convertible top weather strip holder

ON-VEHICLE SERVICE

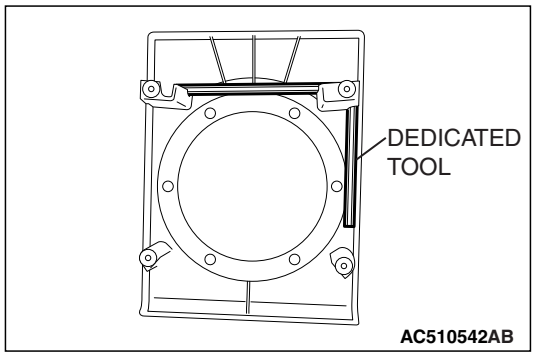
HOW TO OPEN THE TOPSTACK MANUALLY

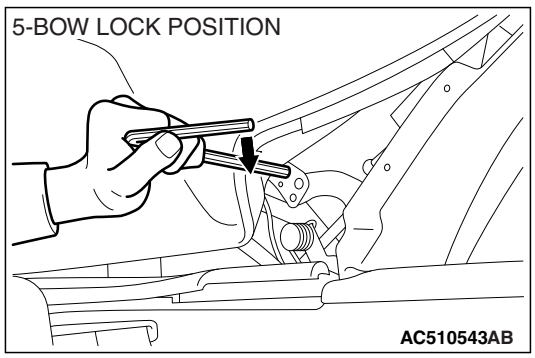
M1426213400013

When a topstack is closed manually in an emergency, open the topstack according to the procedure below, and then perform check and troubleshooting procedures.

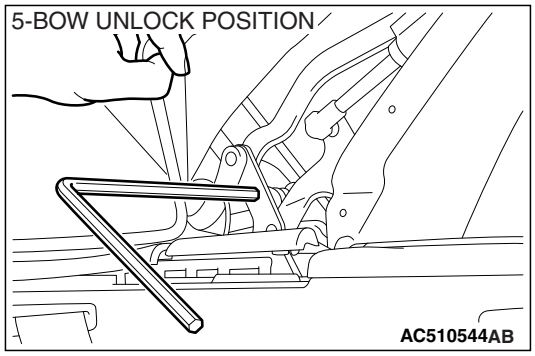


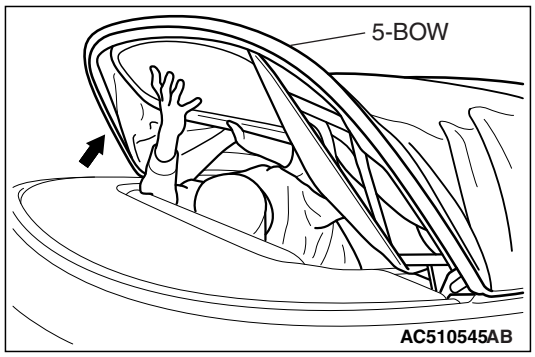
1. Remove the speaker subwoofer trim of the rear seat back and take out the dedicated tool for the topstack.
2. Remove the woofer and close the valve of the pump motor assembly.
3. Remove the topstack cover clip and turn up the topstack cover so that the topstack linkage can be seen.



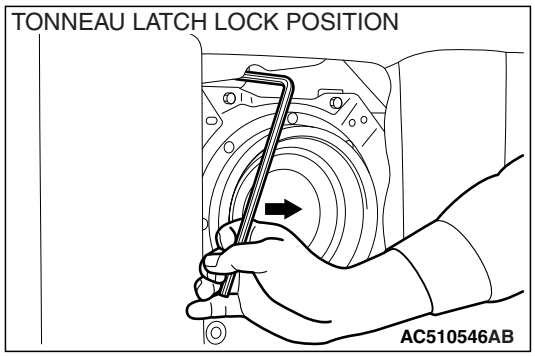


4. Insert the dedicated tool into the hexagon hole and turn the tool downward to release the lock of the 5-bow.

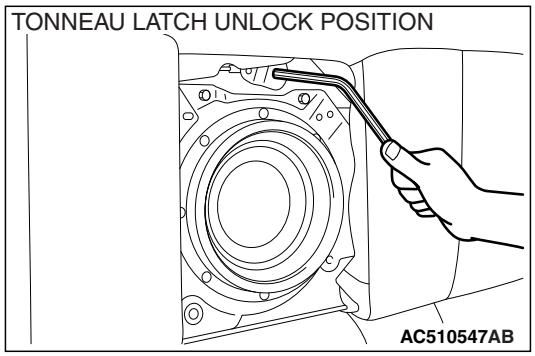


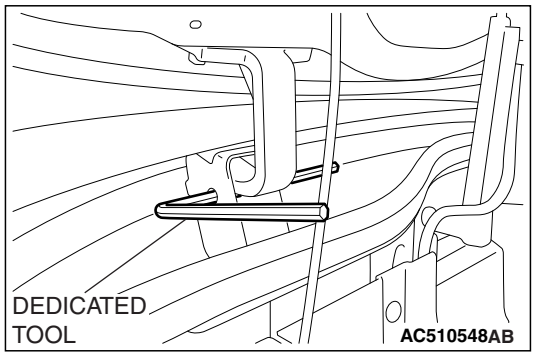


5. Raise the 5-bow and keep it open.

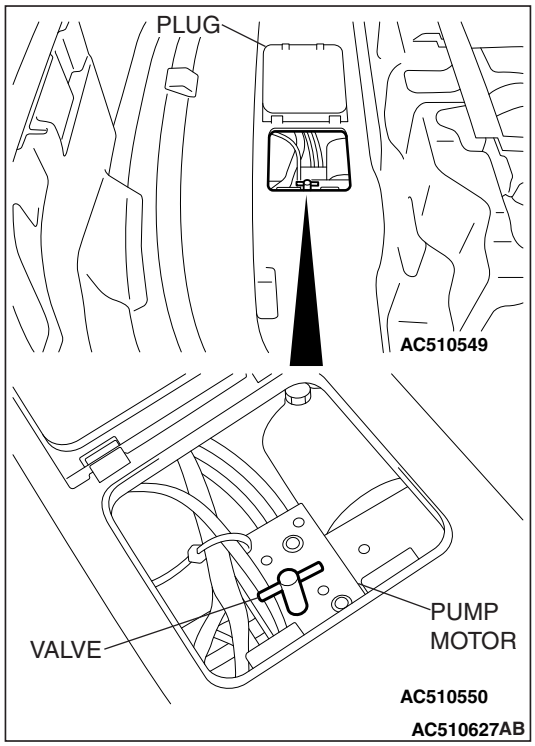


6. Release the tonneau latch lock using the dedicated tool.





7. Raise the tonneau panel, and insert the dedicated tool into the hinge hole to hold the tonneau panel in place.



8. Remove the plug of the topstack storage space and check that the pump motor assembly valve is open.
9. Remove the J hook and open the topstack by folding it backward from the header area.
10. Remove the dedicated tool and close the tonneau panel.
11. Lock the tonneau latch using the dedicated tool.
12. Install the woofer.
13. Place the dedicated tool on the rear speaker subwoofer trim, and then assemble the speaker subwoofer trim.

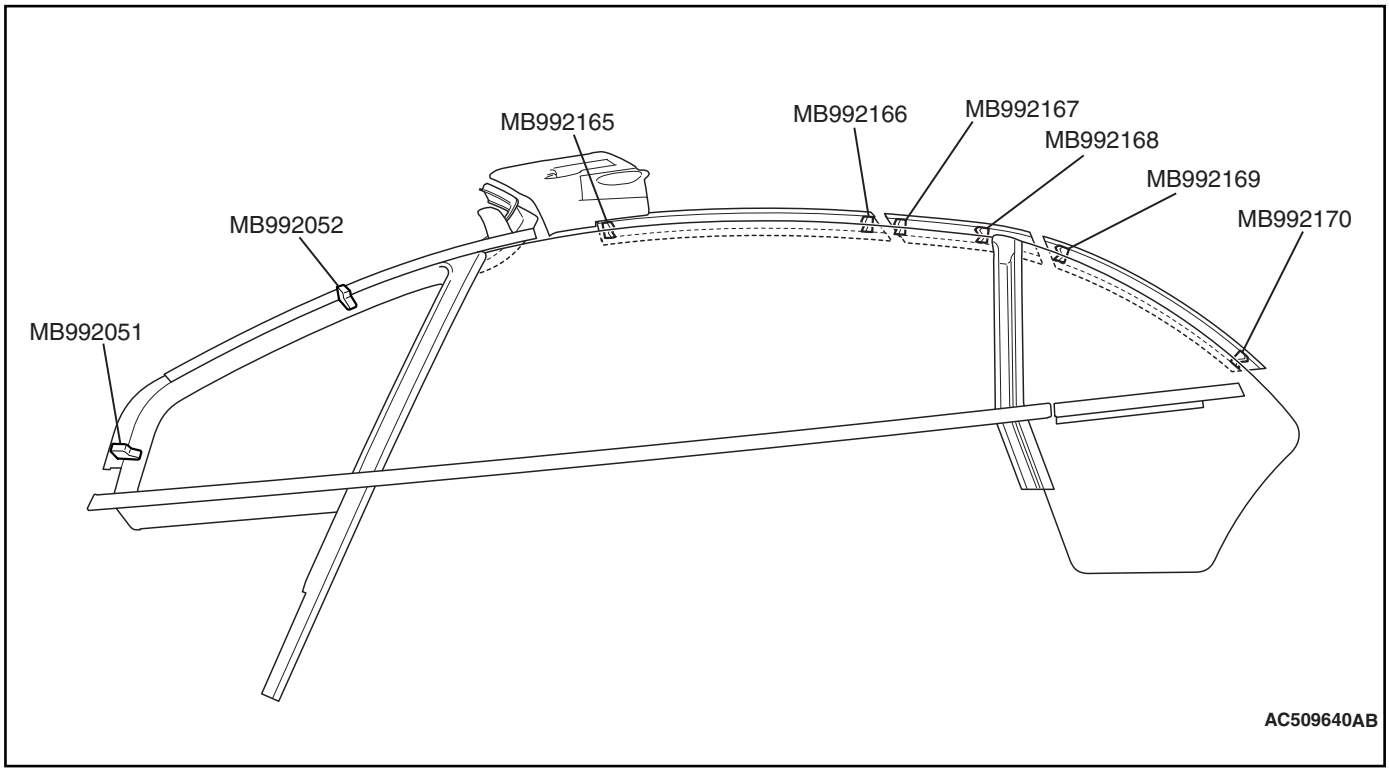
CONVERTIBLE TOP FIT ADJUSTMENT

M1426200900052

Required Special Tools:

- MB992050: Delta glass adjust block set
  - MB992051: Delta glass adjust block A
  - MB992052: Delta glass adjust block B
- MB992164: Glass adjust block set
  - MB992165: Convertible top adjust block G
  - MB992166: Convertible top adjust block H
  - MB992167: Convertible top adjust block I
  - MB992168: Convertible top adjust block J
  - MB992169: Convertible top adjust block K
  - MB992170: Convertible top adjust block L
- MB992171: Retainer adjust block set
  - MB992172: Retainer adjust block A
  - MB992173: Retainer adjust block B

1. Remove the door trim (Refer to GROUP 52A, Door Trim P.52A-34).
2. Remove the weatherstrip.



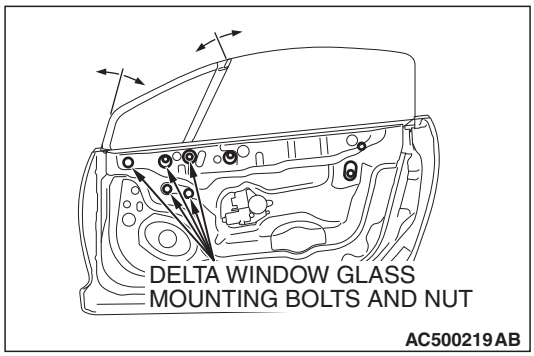
NOTE: Install special tools so that they contact the weatherstrip holder mounting screw or mounting bolt around the positions as shown. (MB992050)

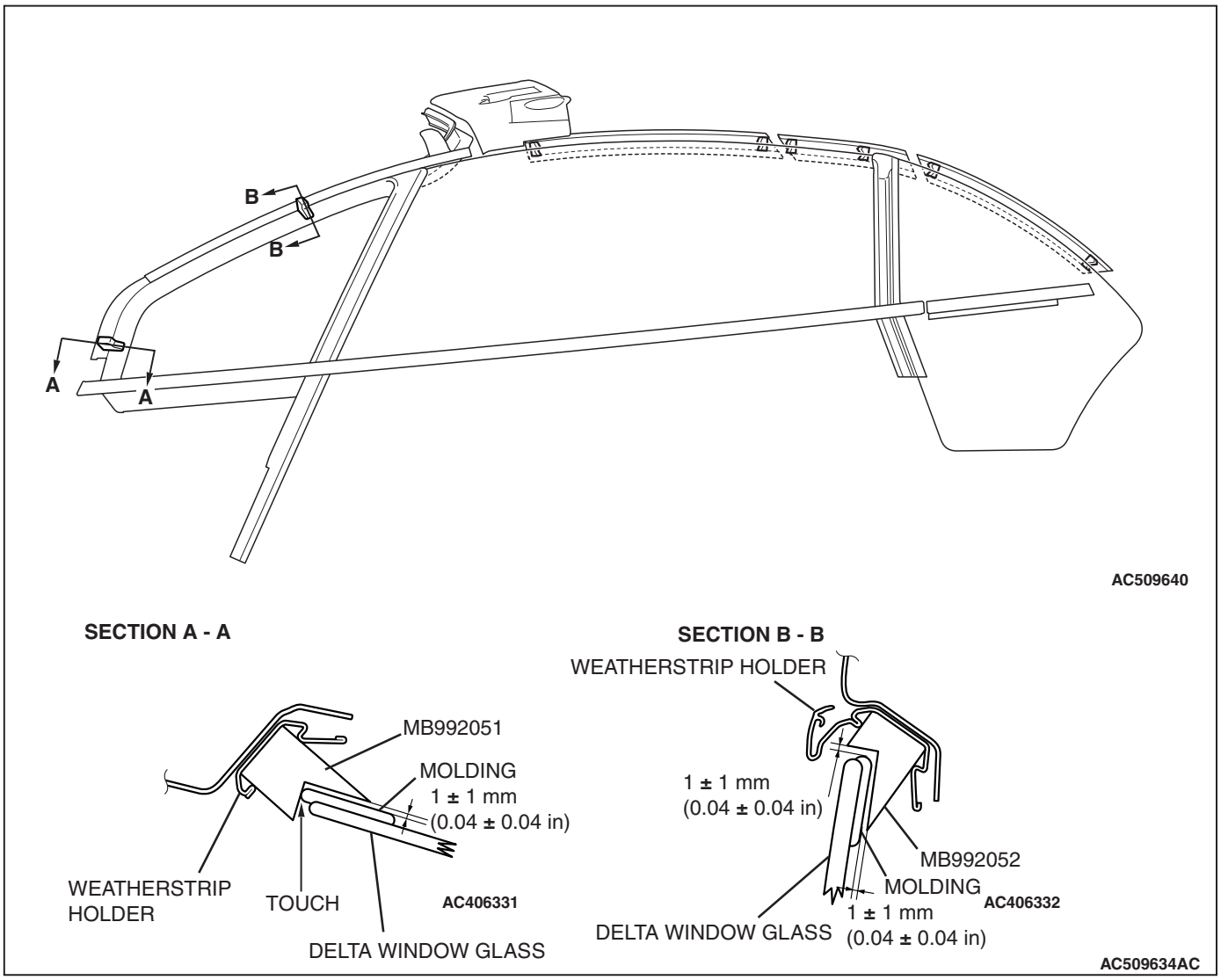
NOTE: Special tools is installed in the weatherstrip installation hole of weatherstrip holder. (MB992164 except MB992168)

NOTE: It installs it so that special tool (MB992168) may hit the part in the corner of door glass.

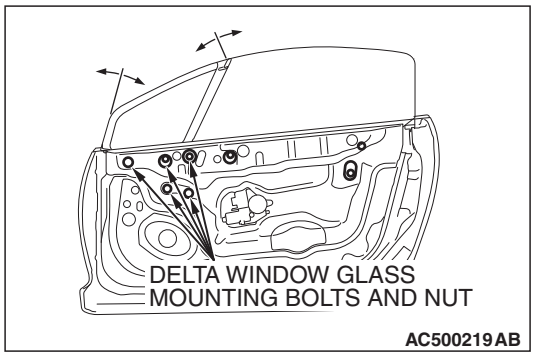
NOTE: The tape is sticking adjusted up and down and evenly in respect where special tools and weatherstrip holder are hit disregarding it when there is a space between special tools and weatherstrip holder.

3. Install special tools MB992050 and MB992164 beside the mounting hole of the weatherstrip holder.
4. Close the door window glass fully.
5. Adjust the position of the delta window glass in the fore/aft direction and the vertical direction.
   (1) Loosen the delta window glass mounting bolts.

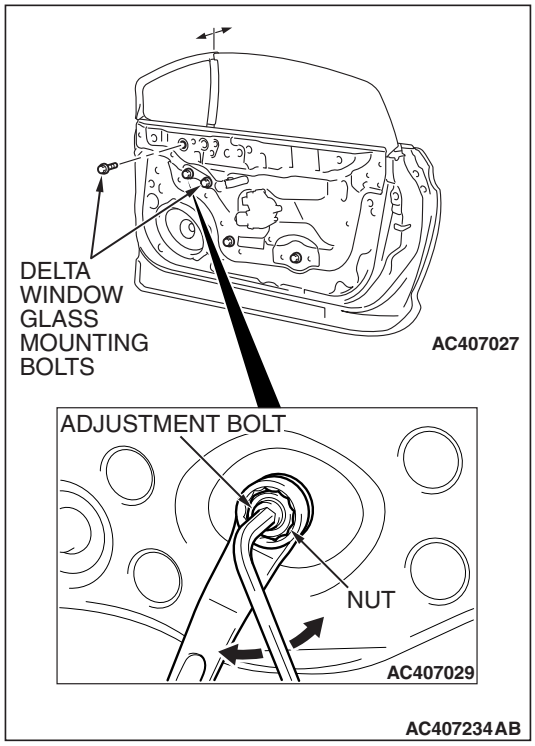




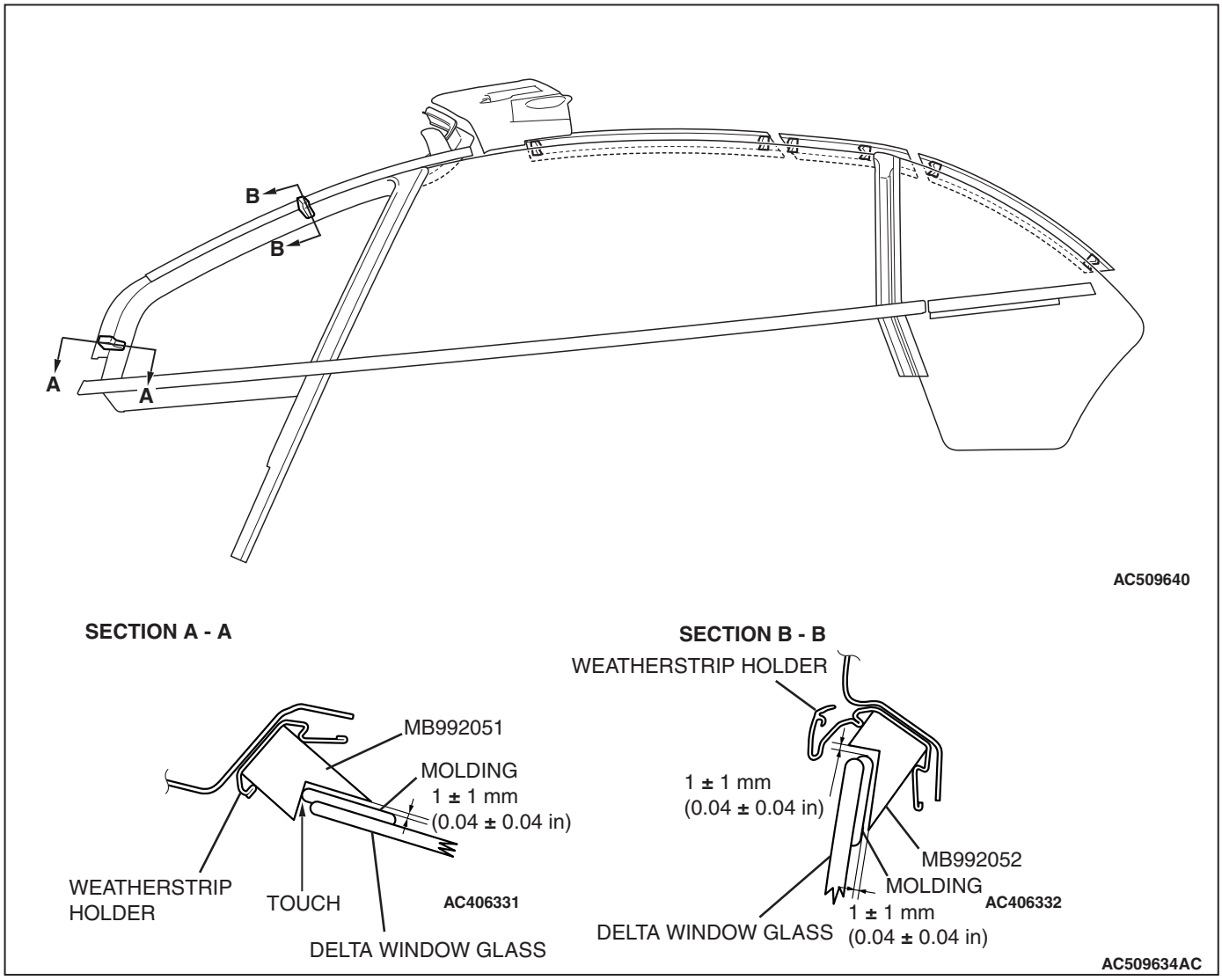
(2) Adjust the delta window glass to the position shown by moving them in the fore/aft direction the vertical direction.
(3) Tighten the delta window glass mounting bolts.



6. Adjust the tilt angle of the delta window glass.



(1) Loosen the delta window glass mounting bolts.
(2) Turn the adjustment bolt. The tilting direction of the delta window glass is altered by approximately 2 mm (0.08 inch) when turning the adjustment bolt one rotation.



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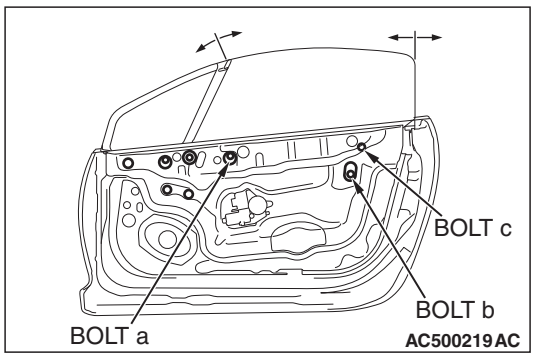
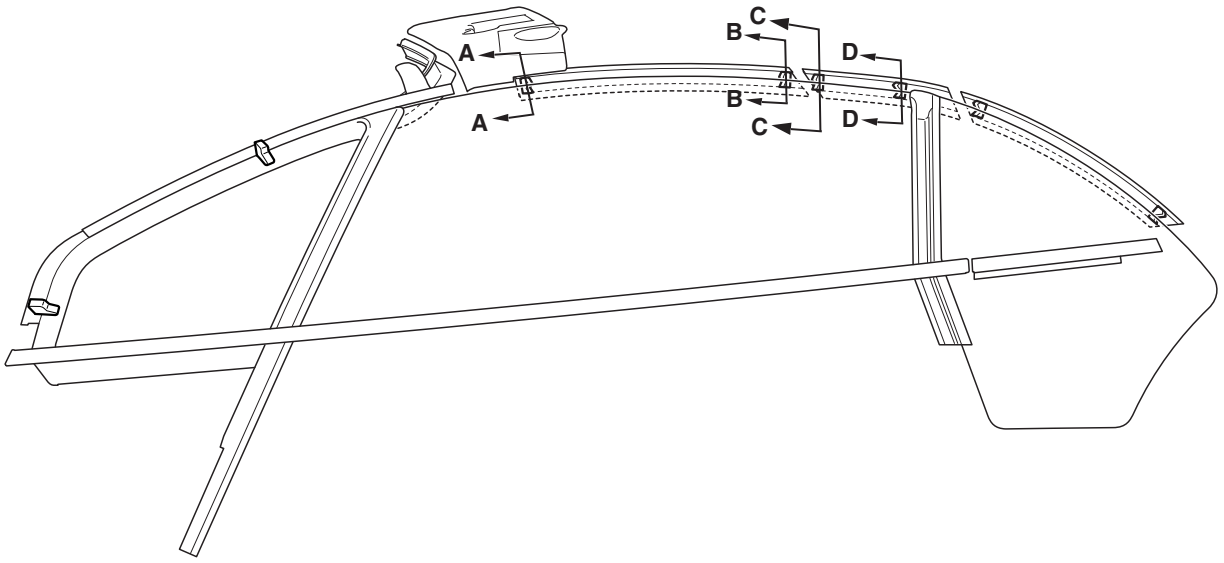


(3) Adjust tilt angle of the delta window glass as shown.
(4) Tighten the delta window glass mounting boltss.

7. Adjust the position of the door window glass in the fore/aft direction and the vertical direction.
   (1) Loosen door window glass mounting bolts a, b, and c as follows:
      a. Loosen bolt a and bolt b with the door window glass fully closed.
      b. Lower the door window glass to the position that bolt c can be seen at the hole where bolt b was loosened.
      c. Loosen bolt c.



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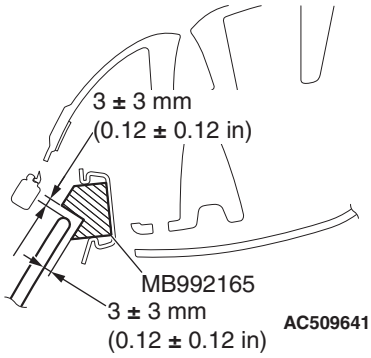
SECTION A - A



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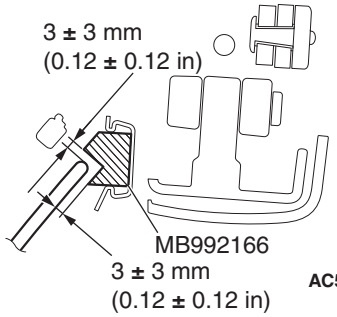
SECTION B - B



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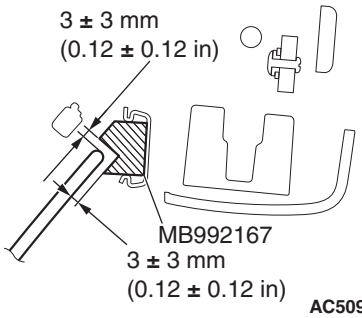
SECTION C - C



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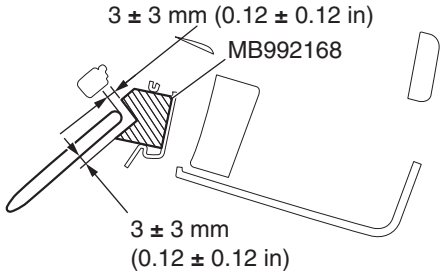
SECTION D - D



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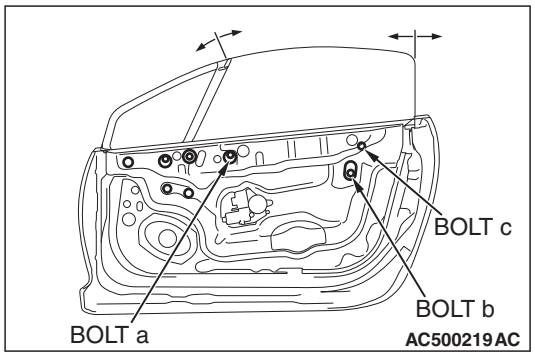
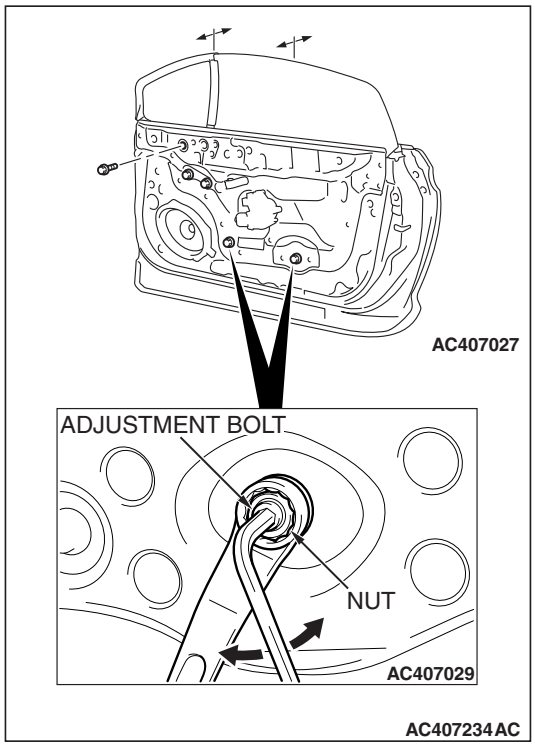
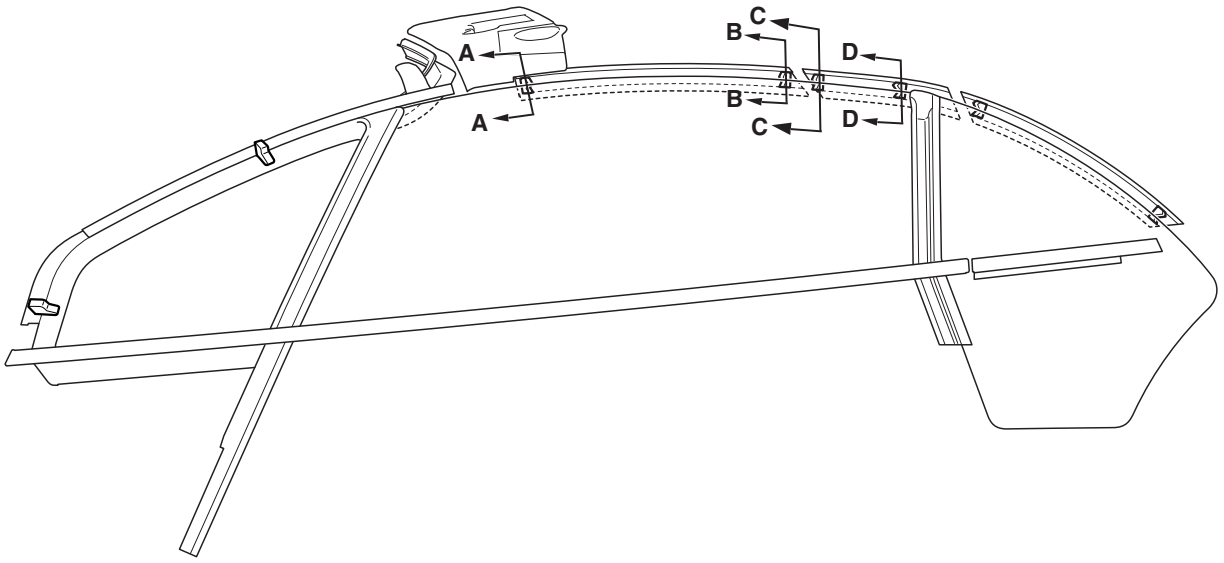
(2) Adjust the door window glass to the position shown by moving them in the fore/aft direction the vertical direction.



(3) Tighten door window glass mounting bolts a, b, and c as follows:
   a. Temporarily tighten bolt a and bolt b with the door window glass fully closed.
   b. Lower the door window glass to the installation position of bolt c.
   c. Tighten bolt c.
   d. Tighten bolt a and bolt b with the door window glass fully closed.

8. Adjust the tilt angle of the door window glass.
   (1) Loosen the door window glass mounting nuts.
   (2) Turn the adjustment bolt. The tilting direction of the door window glass is altered by approximately 1 mm (0.04 inch) when turning the adjustment bolt one rotation.





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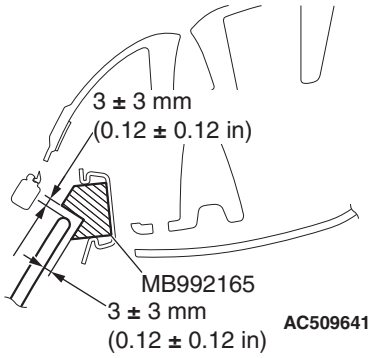
SECTION A - A



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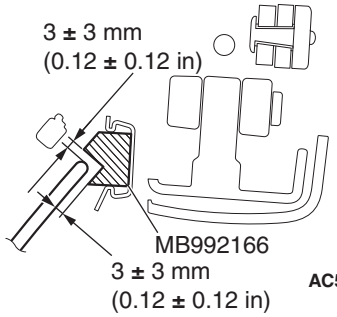
SECTION B - B



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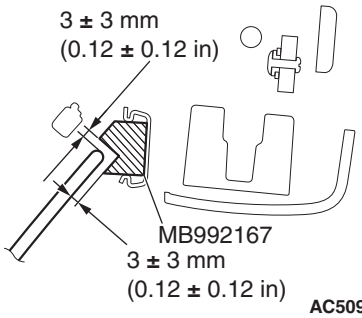
SECTION C - C



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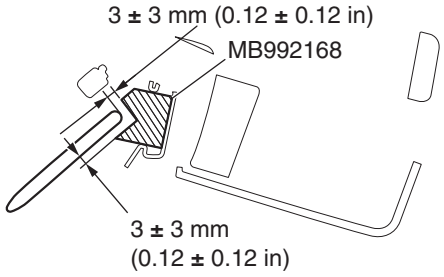
SECTION D - D



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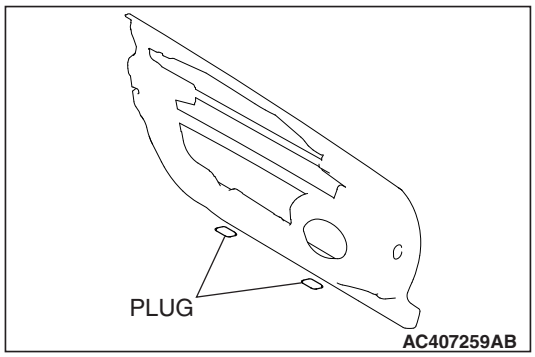
(3) Adjust tilt angle of the door window glass as shown.

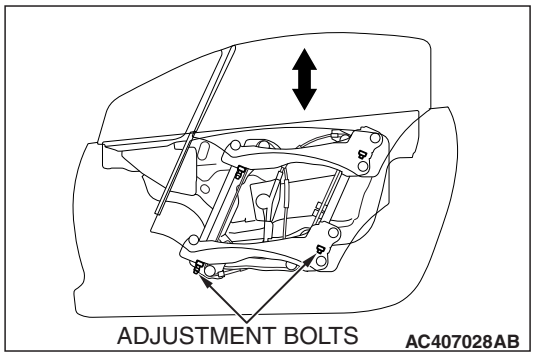
(4) Tighten the door window glass mounting nuts.

9. Adjust the position of the door window glass in the vertical direction.

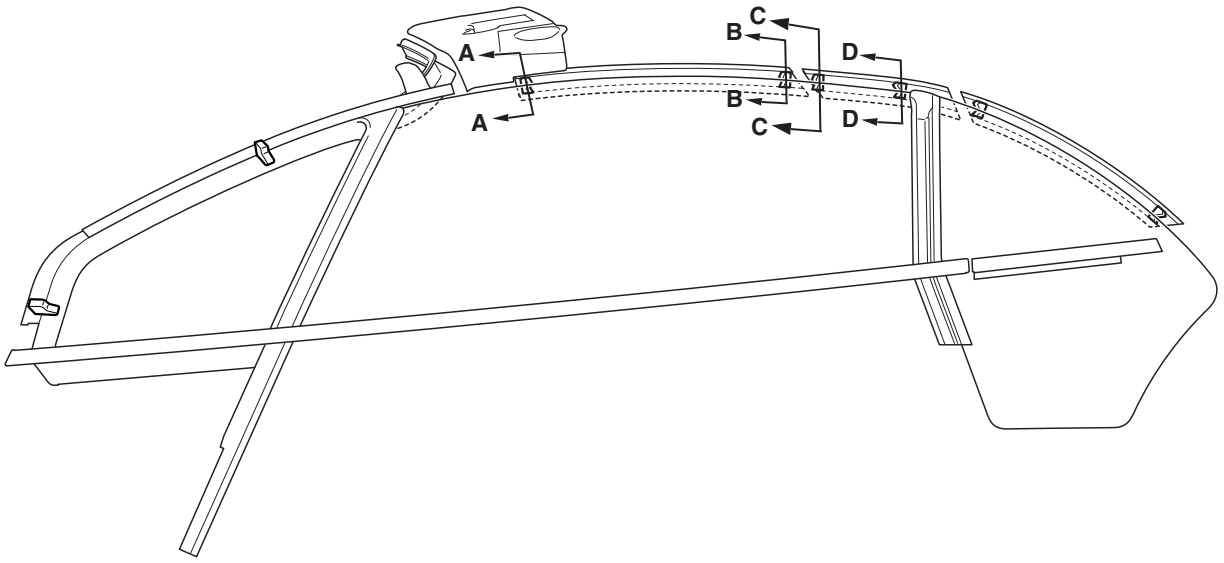
(1) Lower the door window glass to the fully open position.



(2) Remove the plugs.



(3) Turn the adjustment bolts with an E-shape torque wrench (size: Q6E6). The height of the door window glass is altered by approximately 1 mm (0.04 inch) when turning the adjustment bolt one rotation.



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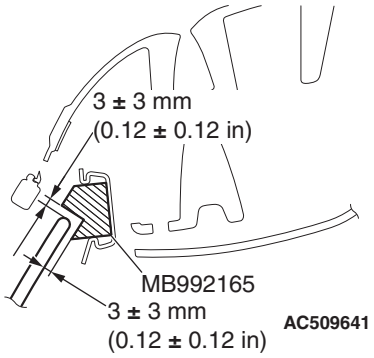
SECTION A - A



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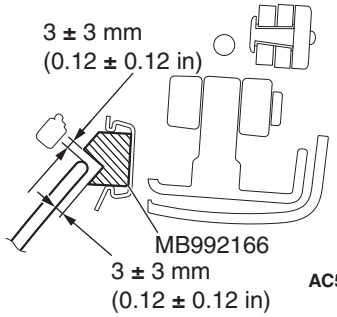

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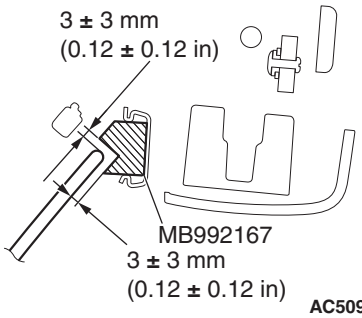
SECTION C - C



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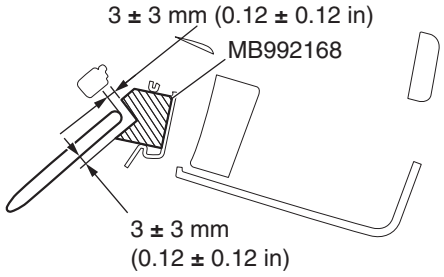
SECTION D - D



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AC509636AD

(4) Adjust the position of the door window glass in the vertical direction as shown.

(5) Install the plugs.

10. Remove special tools MB992050 and MB992164.

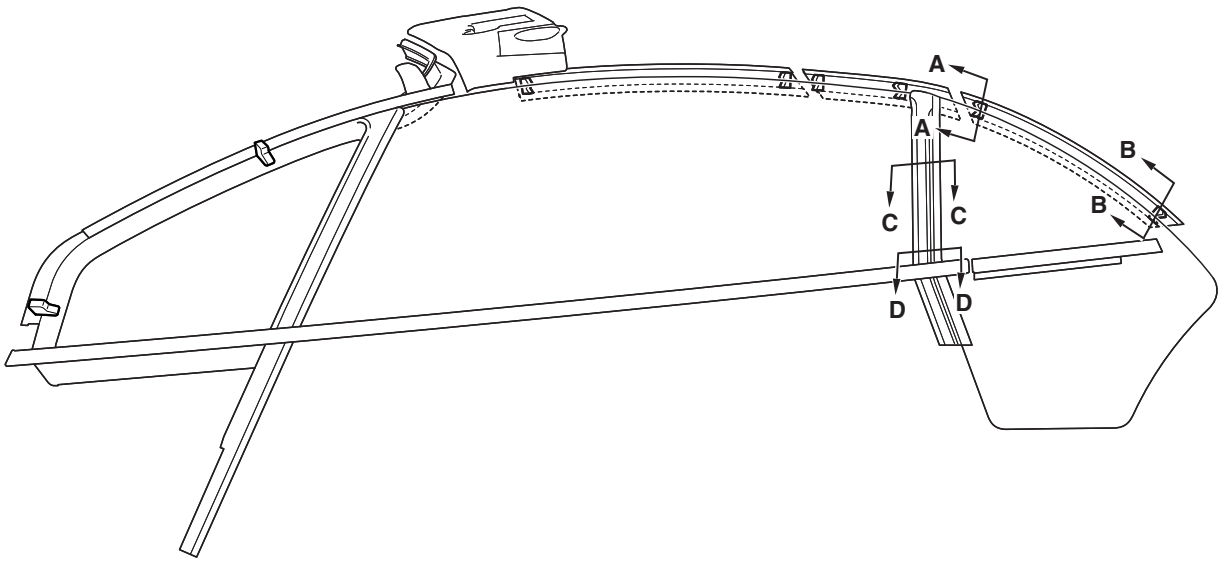
11. Install the weatherstrip (Refer to P.42-93).

12. After adjustment, check that the following operations work normally.
- Power window
- Opening/closing of the doors

TSB Revision

- Short stroke mechanism

13.Install the door trim (Refer to GROUP 52A, Door Trim P.52A-34).



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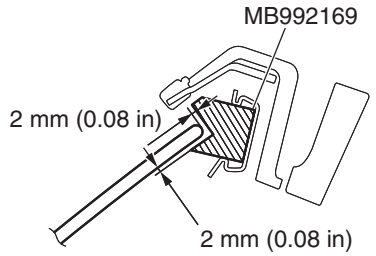
SECTION A - A



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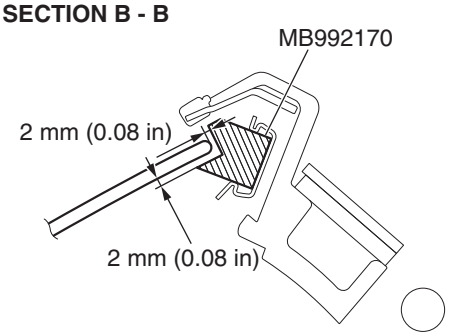
SECTION B - B



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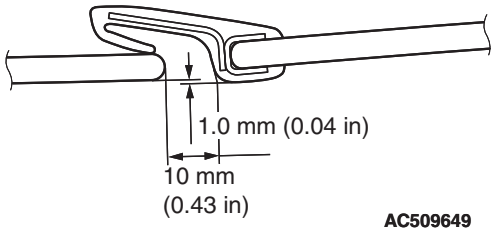
SECTION C - C



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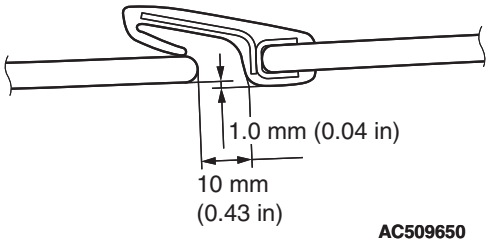
SECTION D - D



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14.With the upper edge angle of the door window glass aligned with that of the quarter window glass, adjust the weatherstrip dimension between the door window glass and the quarter window glass as shown.

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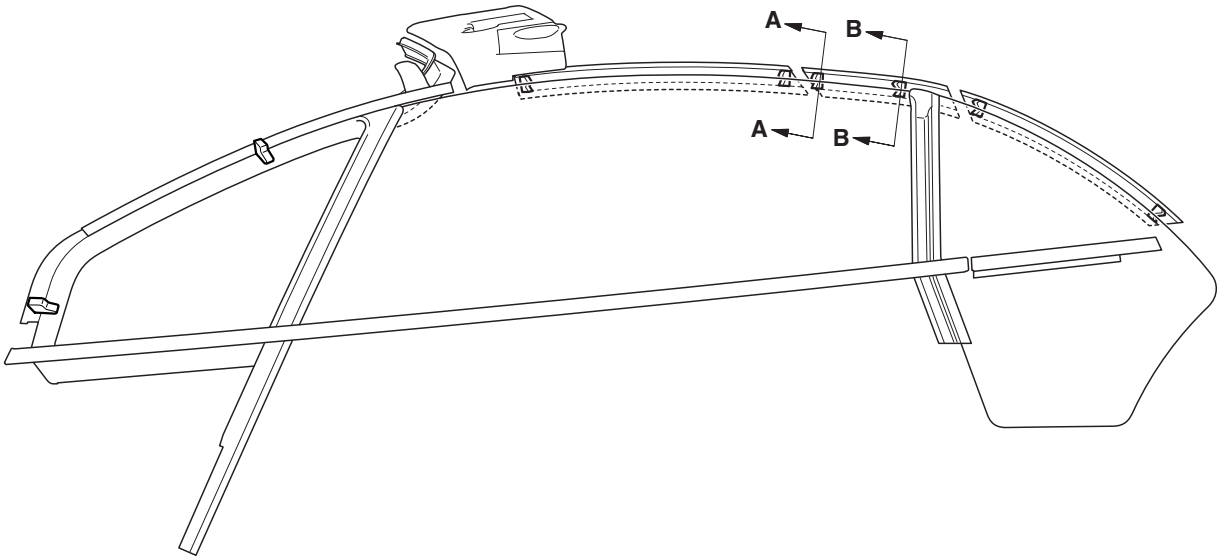

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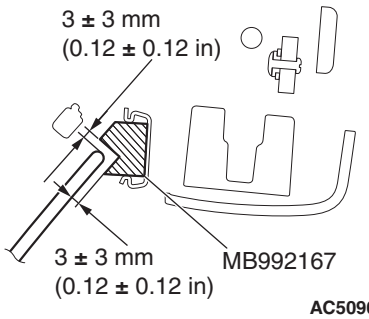
SECTION A - A



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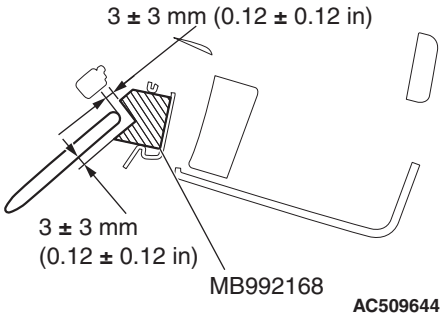
SECTION B - B



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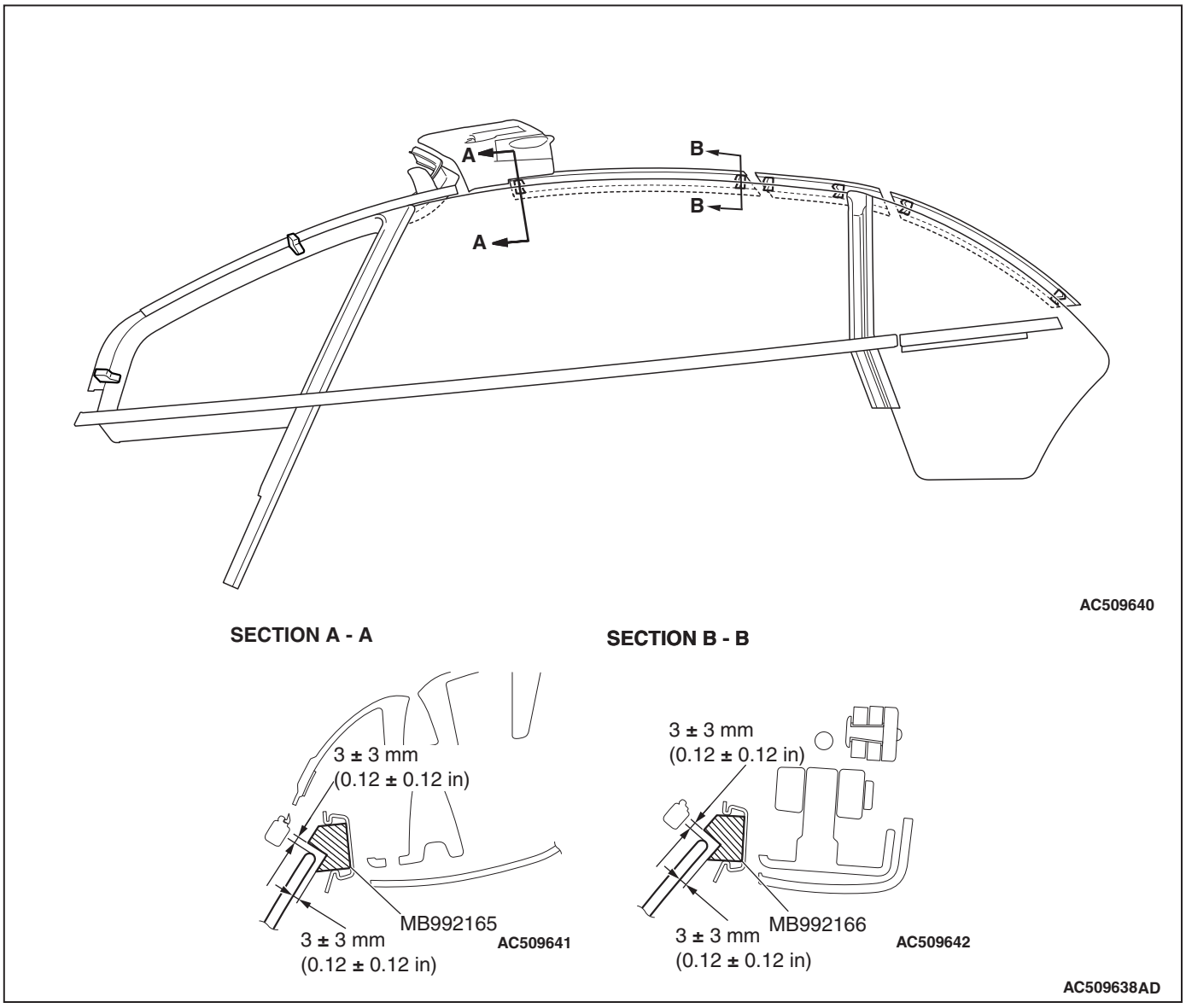
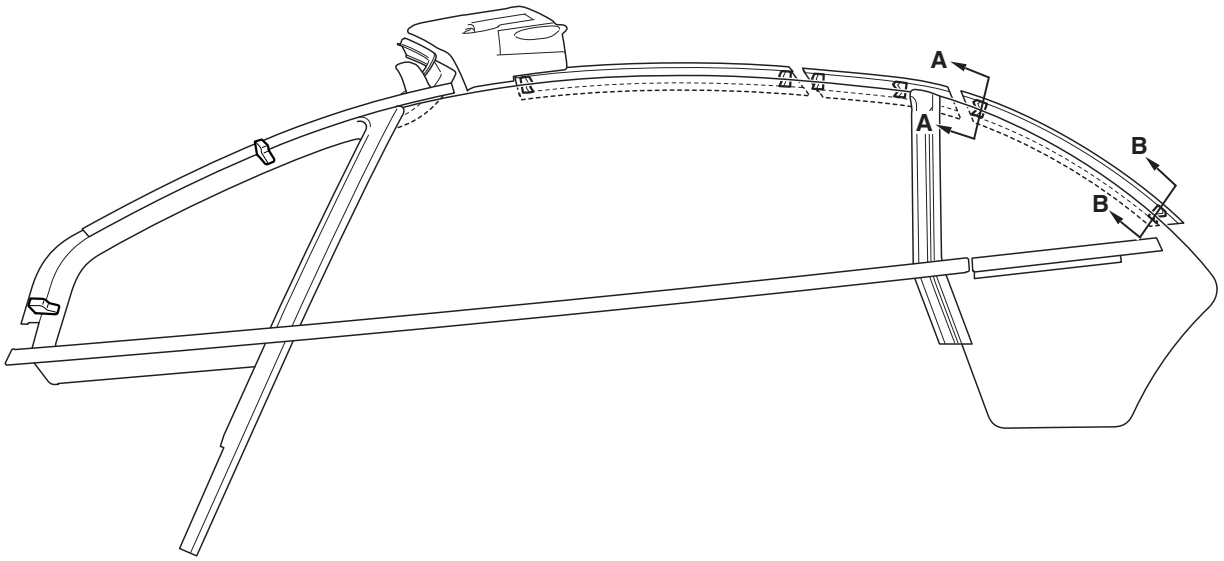
AC509639AD

15. With the special tools MB992167 and MB992168 set to the front end and center of the center weatherstrip holder, loosen the center weatherstrip holder mounting bolt for adjustment in the fore/aft direction, and use the center weatherstrip holder shims for adjustment in the lateral direction.
16. Set the special tool MB992172 for junction between the front weatherstrip holder and center weatherstrip holder.



17. With the special tool MB992165 and MB992166 set to the front and rear ends of the front weatherstrip holder, loosen the front weatherstrip holder mounting bolt for adjustment in the fore/aft direction and use the front weatherstrip holder shims for adjustment in the lateral direction.
18. Set the special tool MB992173 for junction between the center weatherstrip holders and front weatherstrip holder.



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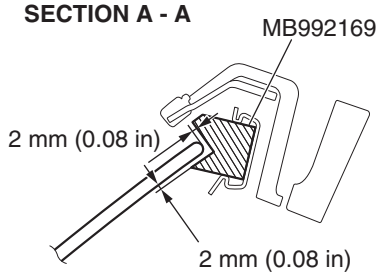
SECTION A - A



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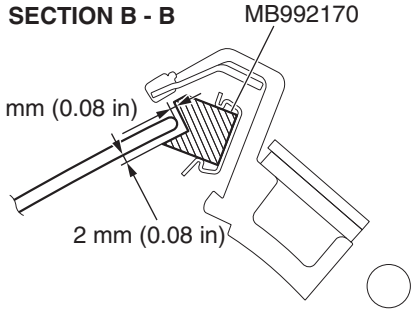
SECTION B - B



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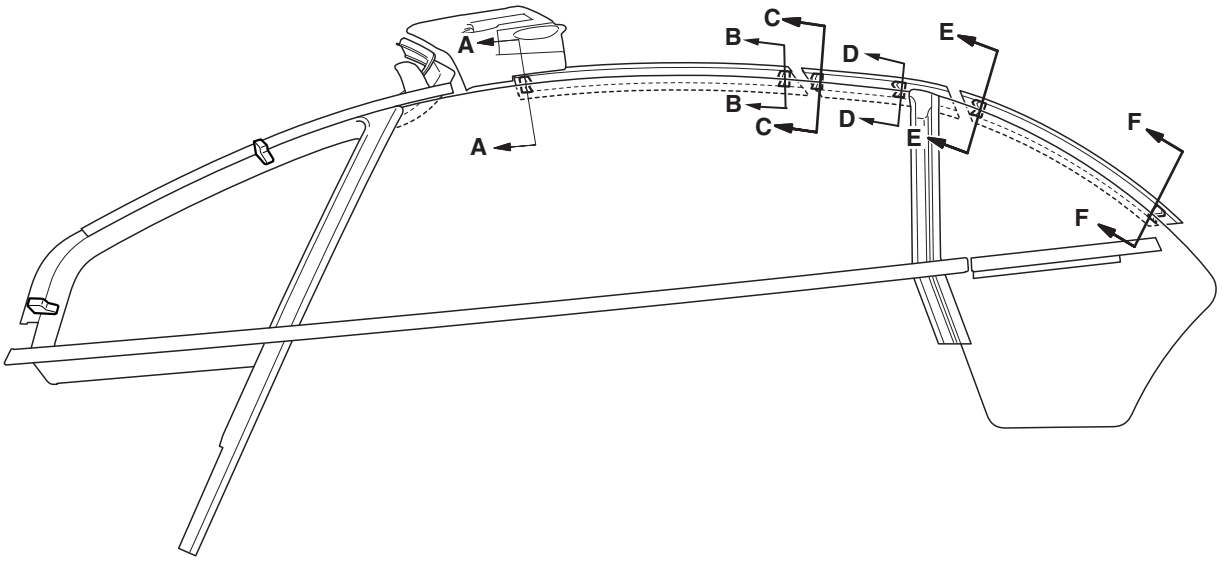
19. With the special tool MB992169 and MB992170 set to the front and rear ends of the rear weatherstrip holder, loosen the rear weatherstrip holder mounting bolt for adjustment in the fore/aft direction and use the rear weatherstrip holder shims for adjustment in the lateral direction.



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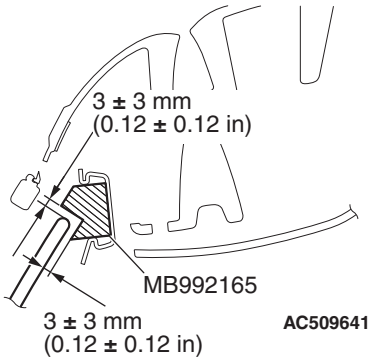
SECTION A - A



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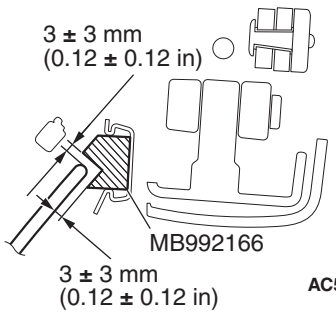
SECTION B - B



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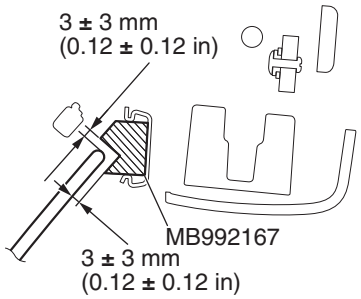
SECTION C - C



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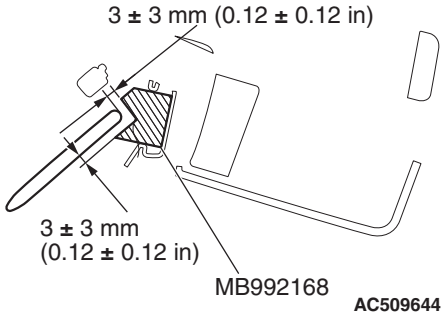
SECTION D - D



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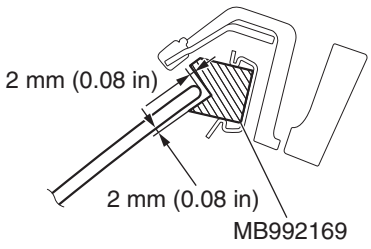
SECTION E - E



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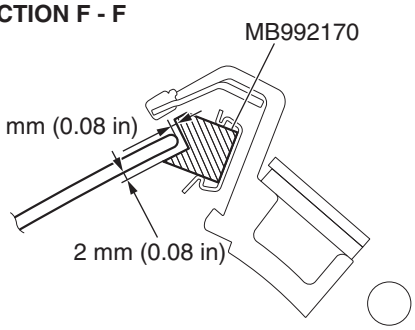
SECTION F - F



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20. Set the special tools MB992165 to MB992170 on the front and rear ends of the weatherstrip holders, and check the clearance at each window glass.
21. To adjust the clearance, loosen the mounting bolts of the relevant weatherstrip holder in the fore/aft direction and use the weatherstrip holder shims for fine adjustment.
22. After the adjustment, perform the water leak check.(Refer to P.42-138).

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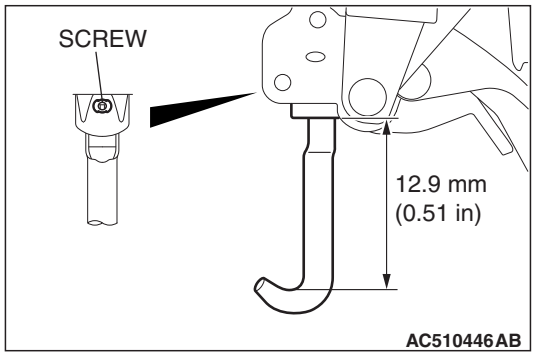
J HOOK ADJUSTMENT

M1426210100013



1. Open the topstack halfway.
2. Check that the J hook dimension is as shown.
3. If not, loosen the screw and then turn the J hook for adjustment.

WATER LEAK TEST

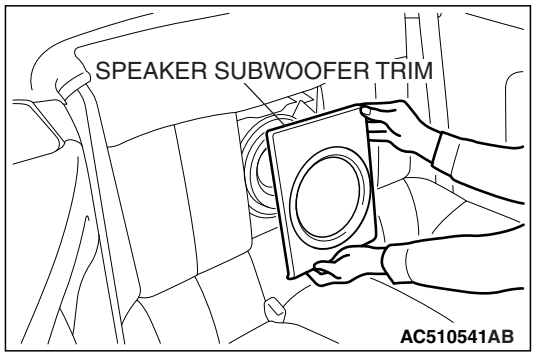
M1426208400051

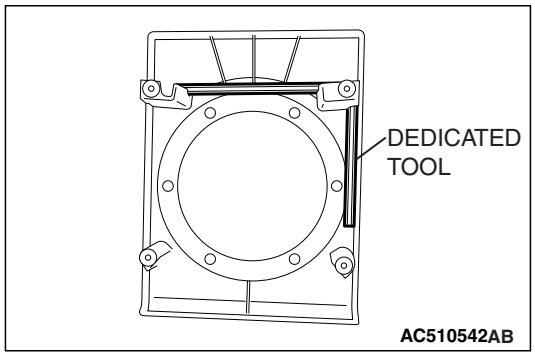
For the water leak test procedures, refer to P.42-138.

REPLACE THE TOP COVER AND HEADLINER

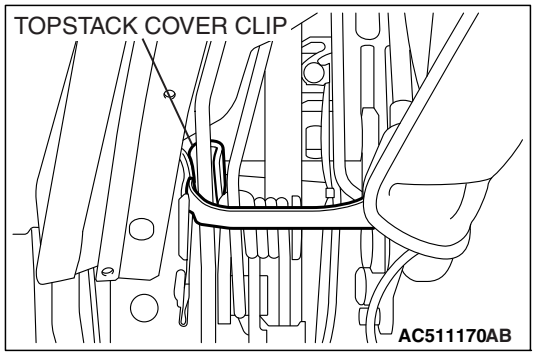
M1426213500010

REPLACE THE HEADLINER

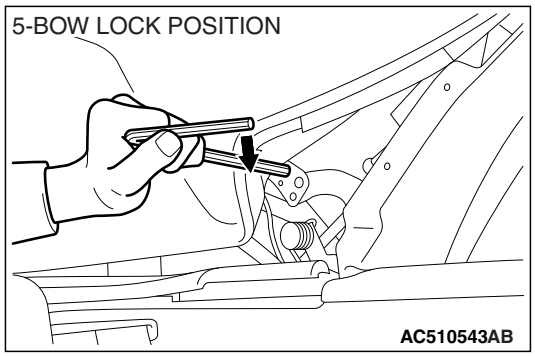




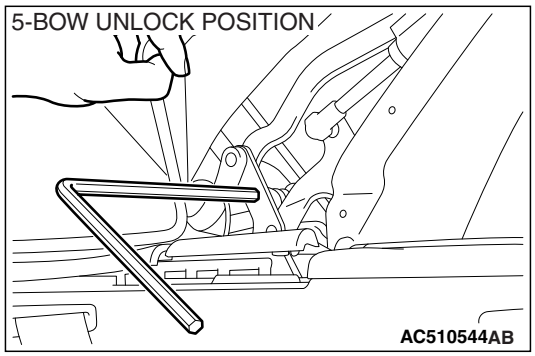
1. Fully open the door window glass and the quarter window glass.
2. Remove the weatherstrip with which the topstack door window glass or the quarter window glass interferes.
3. Remove the speaker subwoofer trim of the rear seat back and take out the dedicated tool for the topstack.
4. Remove the woofer and close the valve of the pump motor assembly.

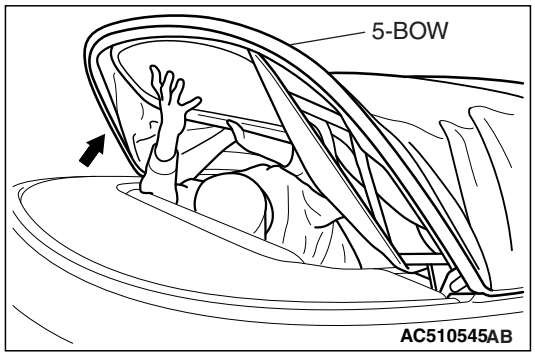


5. Remove the topstack cover clip and turn up the topstack cover so that the topstack linkage can be seen.



6. Insert the dedicated tool into the hexagon hole and turn the tool downward to release the lock of the 5-bow.





7. Raise the 5-bow and keep it open.
8. On the tonneau panel, set a strong object (such as a strong cardboard box) that can support the topstack.
9. Remove the J hook, and open the topstack by folding the topstack backward from the topstack header area until it rests on the object placed on the tonneau panel.
10. Remove the guide pins from the both ends of the 1-bow.

    NOTE: Insert a tool through the clearance between the headliner and the top cover to lock the mounting nut of the guide pin, and then remove the guide pin.
11. Remove the 1-bow trim.
12. Remove 8 screws mounting the headliner to the 1-bow and 2 screws mounting the side rail.
13. Remove the headliner holder from the 2-bow.
14. Remove the headliner holder from the 3-bow.
15. Remove the headliner holder from the 4-bow.
16. Close the topstacks except for the 5-bow.
17. Remove the hook at the end of the rubber band from the link.

18. Remove the clip on the 5-bow.
19. Strip and remove the headliner from the top cover glass periphery.
20. Remove the J hook, and open the topstack by folding the topstack backward from the topstack header area until it rests on the object placed on the tonneau panel.
21. Install the headliner to the 1-bow and the side rail.
22. Fit the 2-bow to the headliner holder.
23. Fit the 3-bow to the headliner holder.
24. Fit the 4-bow to the headliner holder.
25. Install the guide pins from the both ends of the 1-bow.

    NOTE: Insert a tool through the clearance between the headliner and the top cover to lock the mounting nut of the guide pin, and then install the guide pin.
26. Install the 1-bow trim.
27. Close the topstacks except for the 5-bow.
28. Affix the fastener tape of the headliner around the top cover glass.
29. Attach the clip of the headliner to the 5-bow.
30. Place the hook attached on the rubber band end of the headliner on the link.

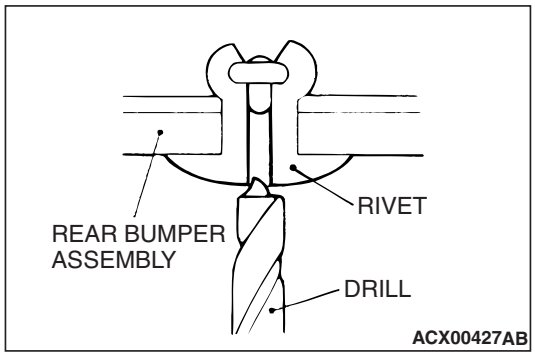
REPLACE THE TOP COVER

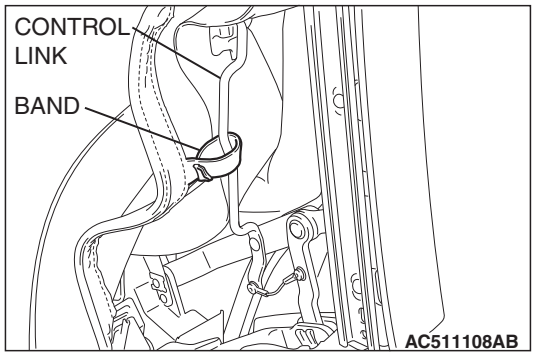
1. Remove the headliner (Refer to P.42-260).
2. Remove the J hook, and open the topstack by folding the topstack backward from the topstack header area until it rests on the object placed on the tonneau panel.
3. Remove the screws mounting to the 1-bow.
4. Strip the top cover off the 1-bow.

⚠ CAUTION
Cover the cabin with a sheet to prevent drilling chips from entering the cabin.

⚠ CAUTION
Because the 1-bow is made from aluminum, be careful not to drill a large hole.

5. Use a drill [4.5 - 5.0 mm (0.18 - 0.20 inch)] to break the rivet by drilling a hole, and remove the rivet from 1-bow. And then remove the side tension cable tab from 1-bow.
6. Rivet that remains in the rivet installation hole is kicked out by using knock pin punch of ϕ3.0 mm (ϕ0.12 inch) because of the other side of rivet.

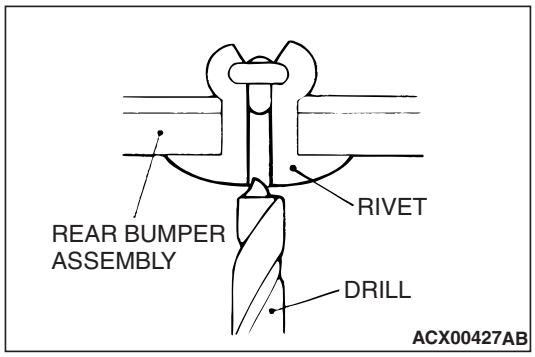




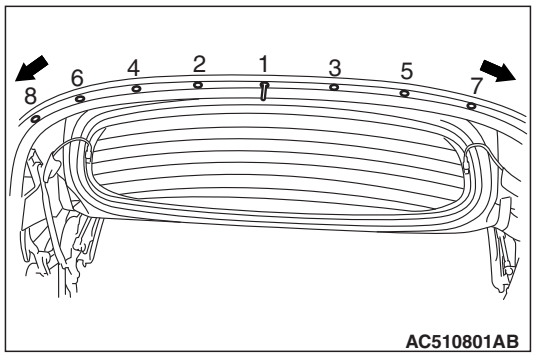
7. Remove the band on the front side of the control link.
8. Strip the 2-bow listing strap of the top cover affixed to the 2-bow with double-sided tape.
9. Strip the 3-bow listing strap of the top cover affixed to the 3-bow with double-sided tape.
10. Strip the 4-bow listing strap of the top cover affixed to the 4-bow with double-sided tape.
11. Close the topstacks except for the 5-bow.
12. Remove the retainer and the weatherstrip from the 5-bow.

⚠ CAUTION
Cover the cabin with a sheet to prevent drilling chips from entering the cabin.

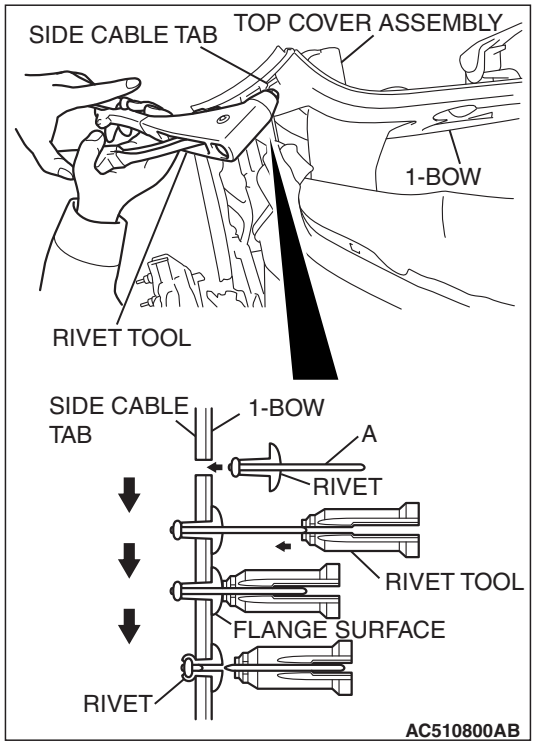
⚠ CAUTION
Because the 5-bow is made from aluminum, be careful not to drill a large hole.



13. Use a drill [ϕ4.5 – 5.0 mm (ϕ0.18 – 0.20 inch)] to break the rivet by drilling a hole, and remove the rivet from 5-bow.
14. Rivet that remains in the rivet installation hole is kicked out by using knock pin punch of ϕ3.0 mm (ϕ0.12 inch) because of the other side of rivet.
15. Turn up the top cover from the 5-bow.
16. Remove the defogger connector from the rear window, and then remove the defogger harness from the top cover.
17. Turn up the top cover from the rear side rail.
18. Remove the side tension cable from the 4-bow link.
19. Remove the top cover.
20. Remove the doubled-sideed tape from the 2-bow, 3-bow, and 4-bow, and then affix new doubled-sideed tape in the same position.
21. Set the top cover to the topstack frame.
22. Install the side tension cable to the 4-bow link.
23. Install the top cover to the side rail rear.
24. Insert the defogger harness to the top cover and install the defogger connector to the rear window.
25. Place the mounting part of the top cover over the 5-bow.



26. Rivet the top cover on the 5-bow starting from the center of the 5-bow. This riveting work should be performed alternately on the right and left sides of the first riveting location as shown.
27. Install the weatherstrip and retainer to the 5-bow.
28. Remove the J hook, and open the topstack by folding the topstack backward from the topstack header area until it rests on the object place on the tonneau cover.
29. Wind the strap around the front side of the control link.



30.Rivet the side tension cable tab to the 1-bow according to the procedure below.
(1) Insert the rivets into the 1-bow and side tension cable tab.
(2) Insert "A" of the rivet into the rivet tool.
(3) Pressing the flange surface of the rivet, move the handle of the rivet tool.
(4) The thinnest point of "A" is cut and the rivet is held in the position.

31.Place the mounting part of the top cover over the 1-bow.

⚠ CAUTION
Because the 1-bow is made from aluminum, tightening the screw more then necessary results in damage to the screw hole. Be careful not to over tighten the screw.

32.Install the top cover to the 1-bow with screws.

33.Close the topstacks except for the 5-bow.

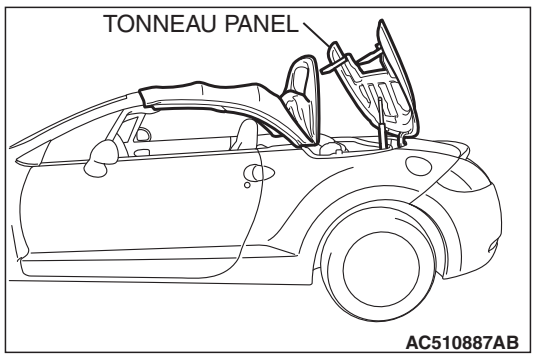
34.Affix the 2-bow listing strap of the top cover to the double-sided tape attached to the 2-bow.

35.Affix the 3-bow listing strap of the top cover to the double-sided tape attached to the 3-bow.

36.Affix the 4-bow listing strap of the top cover to the double-sided tape attached to the 4-bow.

37.Install the headliner.(Refer to P.42-260).

38.Convertible top might not shut completely in the operation of convertible top switch when top cover is replaced. To make top cover become familiar with the vehicle after top cover is replaced, convertible top is closed according to the following procedure.
(1) It puts it into the state to shut convertible top to the position of shown in the figure.
(2) J hook is closed.
(3) It puts it into the state to shut ronneau cover and the 5-bow completely pushing close switch of convertible top switch after ignition switch is turned on.



REPLACE THE SIDE STAY PADS

Replace the side stay pads as described below. The procedure is the same for both sides.

1. Remove the headliner (Refer to P.42-260).
2. Remove the top cover (Refer to P.42-262).
3. Close the topstacks except for the 5-bow.

⚠ CAUTION
Cover the cabin with a sheet to prevent drilling chips from entering the cabin.

⚠ CAUTION
Because the 5-bow is made from aluminum, be careful not to drill a large hole.

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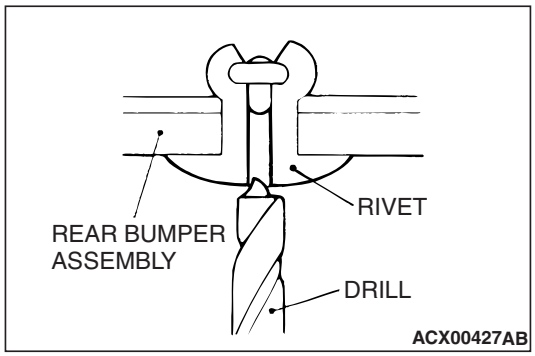
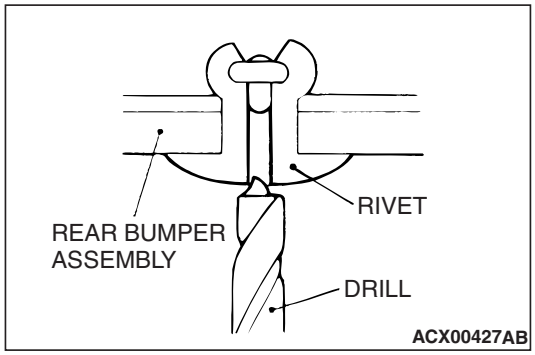


4. Use a drill [ϕ4.5 – 5.0 mm (ϕ0.18 – 0.20 inch)] to break the rivet by drilling a hole, and remove the rivet from 5-bow. And then remove the side stay pad from the 5-bow.
5. Rivet that remains in the rivet installation hole is kicked out by using knock pin punch of ϕ3.0 mm (ϕ0.12 inch) because of the other side of rivet.

⚠ CAUTION
Cover the cabin with a sheet to prevent drilling chips from entering the cabin.

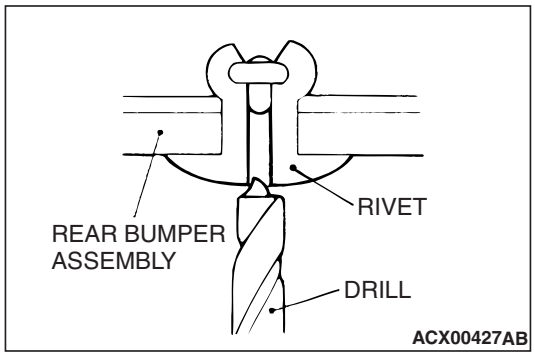
⚠ CAUTION
Because the 4-bow is made from aluminum, be careful not to drill a large hole.



6. Use a drill [ϕ4.5 – 5.0 mm (ϕ0.18 – 0.20 inch)] to break the rivet by drilling a hole, and remove the rivet from 4-bow. And then remove the side stay pad from the 4-bow.
7. Rivet that remains in the rivet installation hole is kicked out by using knock pin punch of ϕ3.0 mm (ϕ0.12 inch) because of the other side of rivet.

⚠ CAUTION
Cover the cabin with a sheet to prevent drilling chips from entering the cabin.

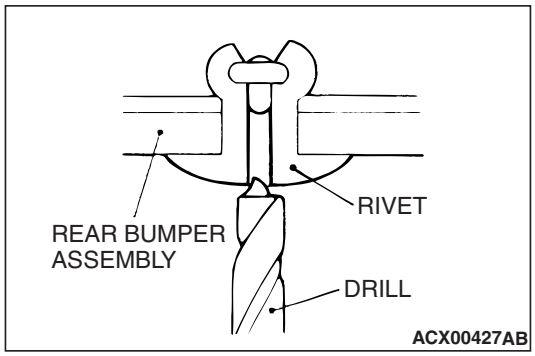
⚠ CAUTION
Because the 3-bow is made from aluminum, be careful not to drill a large hole.



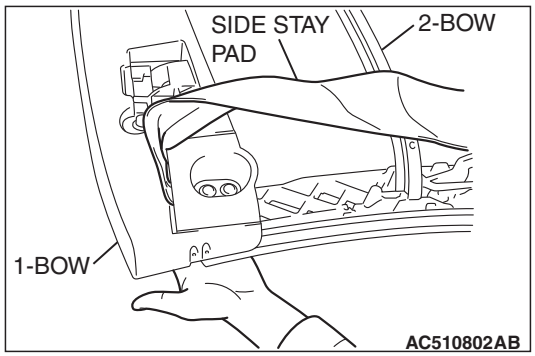
8. Use a drill [ϕ4.5 – 5.0 mm (ϕ0.18 – 0.20 inch)] to break the rivet by drilling a hole, and remove the rivet from 3-bow. And then remove the side stay pad from the 3-bow.
9. Rivet that remains in the rivet installation hole is kicked out by using knock pin punch of ϕ3.0 mm (ϕ0.12 inch) because of the other side of rivet.

⚠ CAUTION
Cover the cabin with a sheet to prevent drilling chips from entering the cabin.

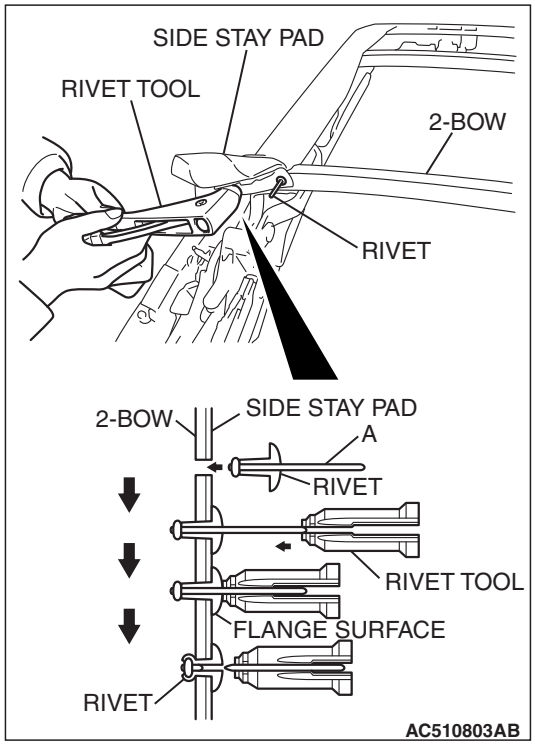
⚠ CAUTION
Because the 2-bow is made from aluminum, be careful not to drill a large hole.



10. Use a drill [ϕ4.5 – 5.0 mm (ϕ0.18 – 0.20 inch)] to break the rivet by drilling a hole, and remove the rivet from 2-bow. And then remove the side stay pad from the 2-bow.
11. Rivet that remains in the rivet installation hole is kicked out by using knock pin punch of ϕ3.0 mm (ϕ0.12 inch) because of the other side of rivet.



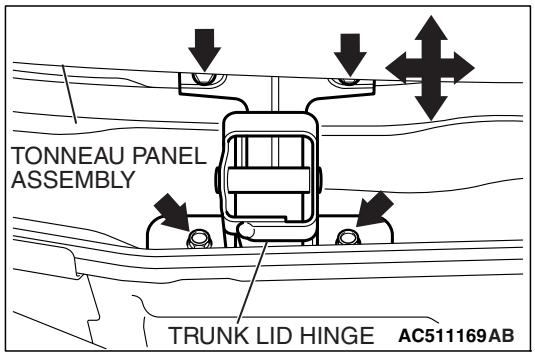
12.Remove the side stay pad from the 1-bow.
13.Remove the double-sided tape from the 1-bow, and affix new double-sided tape in the same position.
14.Set the side stay pad hook to the 1-bow.



15.Follow the procedure below to install the side stay pads with rivets to the 2-bow, 3-bow, 4-bow, and 5-bow in that order.
(1) Insert the rivets into the side stay pad and bow.
(2) Insert "A" of the rivet into the rivet tool.
(3) Pressing the flange surface of the rivet, move the handle of the rivet tool.
(4) The thinnest point of "A" is cut and the rivet is held in the position.
16.Install the top cover (Refer to P.42-262).
17.Install the headliner (Refer to P.42-260).

ADJUSTMENT OF CLEARANCE AROUND TONNEAU PANEL

M1426214700017



Loosen the tonneau panel assembly mounting bolts, and move the tonneau panel assembly to make the clearance around the trunk lid even.

HYDRAULIC SYSTEM INSPECTION

M1426214800025

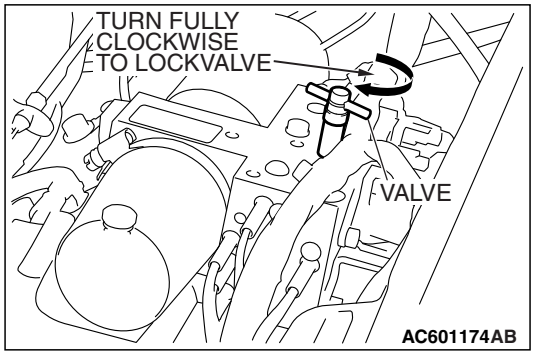
Required Special Tools:

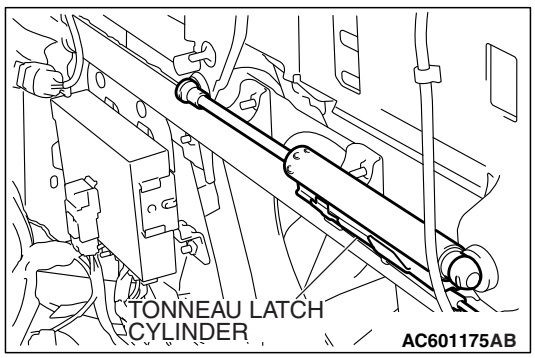
- MB991958: M.U.T.-III Sub Assembly
  - MB991824: Vehicle Communication Interface (V.C.I.)
  - MB991910: M.U.T.-III Main harness A

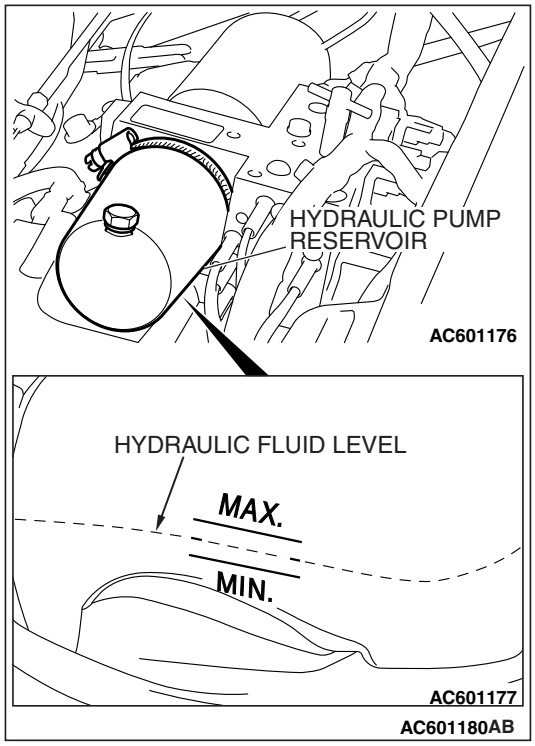
The convertible top is operated by hydraulic pressure. A hydraulic pump pressurizes lines carrying hydraulic fluid to the cylinders move the top open and close, based on the amount of pressure exerted on the cylinders during top operation. Hydraulic fluid flow moves a piston inside each cylinder, to extend or retract it. The cylinder movement raises or lowers a section of the top pr the tonneau cover.

HYDRAULIC SYSTEM DIAGNOSIS

1. Visually inspect the convertible top as follow.
   (1) Remove the tonneau latch cover, drain trough assembly and upper cover. Check the position of the manual valve. (If the manual valve is not closed, top operation will be slow or disabled.) If the valve is open, close the valve and retry convertible top operation. If the top now operates property, do not continue with this procedure.
   (2) Check for any bent control link or damaged hinges. Replace damaged components as necessary.
   (3) Check for kinked hydraulic lines. Replace damaged lines as necessary.
   (4) Inspect for hydraulic fluid leakage at the system lines and components. If any leakage is evident, replace any leaking components.
2. Operate the convertible top and listen to the sound of the hydraulic pump operation. If necessary, listen to a known good system on another vehicle to compare the sound of the hydraulic pump operation.
   If the pump operates with an excessively high-pitched noise, there may be a hydraulic leak. If the pump operates with an excessively low-pitched noise, there may be a restriction in a hydraulic line. Note the sound of the pump operation, then continue with Step 3.
3. Check hydraulic fluid level as follows.
   (1) With the tonneau latch cylinder in the open (extended) position as show, lift the tonneau cover and lift the No. 5 bow to the vertical.



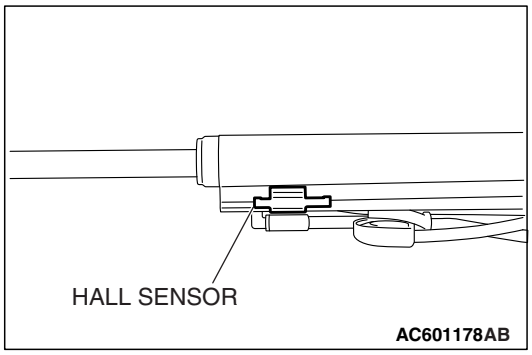




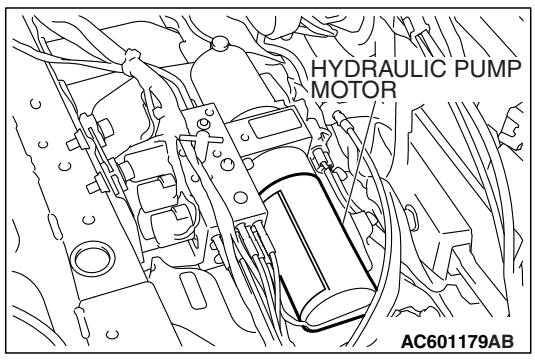
(2) Check the hydraulic fluid level in the hydraulic pump reservoir. The hydraulic fluid should be between the MAX and MIN marks.
(3) Drain or replenish the hydraulic fluid as necessary to achieve proper fluid level.

4. The convertible top control module must re-establish convertible top position. To do this, system must be reset as follow.
(1) Manually open the convertible top to the fully open position (Refer to P.42-243).
(2) Close the tonneau.
(3) Close all doors and windows.
(4) Manually close the convertible top to the fully closed position. As the top moves, check for any jerky or uneven movement. Also check the movement of the hydraulic cylinder.
(5) If any hydraulic cylinder does not fully extend or retract, possible causes are cylinder leakage, an external hydraulic leak, a hydraulic line restriction, or mechanical binding. Replace the affected component(s).

5. Connect the scan tool MB991958 to check for any DTCs.
(1) Note the DTCs and then clear them.
(2) If one or more convertible top DTCs are set (DTC B1301 to 1340 or DTC U1073), refer to the appropriate DTC diagnosis (P.42-138).
(3) If no convertible top DTCs (DTC B1301 to 1340 or DTC U1073) are set, continue with Step 6.



6. The hall sensors on the hydraulic cylinders identify the position of the piston in the No. 5 bow cylinders and No. 5 bow lock cylinders, the tonneau latch cylinder, and the tonneau cylinder.
Check for any damage to the hall sensors or their wires. Repair or replace as necessary.
If any metallic debris is present on a hall sensor, remove the debris, then retry top operation.



7. Check the hydraulic pump motor operation as follows.
(1) Open the tonneau cover and the No. 5 bow.
(2) Install an inductive clamp on an ammeter. Then connect the clamp to the ground wire of the motor.
(3) Operate the convertible top and observe the amp reading on the meter as the top is opened and closed.
(4) The amperage should peak at approximately 24 to 30 A during top operation.
(5) If the amperage peak is lower than 24 A, install Chassis Ears at the hydraulic lines at each cylinder, one at a time. Listen for an aeration sound that indicates hydraulic fluid bypassing a seal in a cylinder. Replace the affected cylinder.

- If an aeration sound is heard, replace the affected cylinder. (If leakage is determined at a No. 5 bow cylinder, No. 5 bow locking cylinder, or main rotary cylinder, replace the affected cylinders on both sides.)
- If no aeration sound is heard, replace the hydraulic pump.

(6) If the amperage peak is higher than 30 A, first confirm that there are no kinks in the hydraulic lines. If not, there is an internal pump failure. Replace the hydraulic pump.

8. Verify proper convertible top operation.

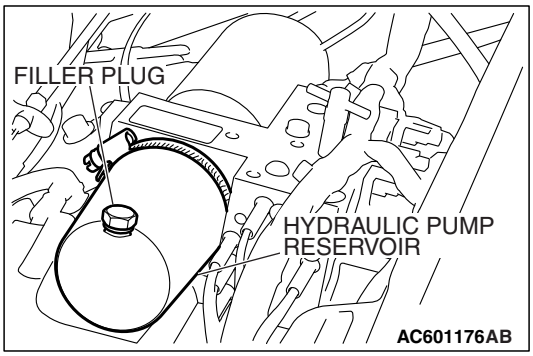
BLEEDING OF THE HYDRAULIC SYSTEM

M1426214900011

Sometimes air can get trapped inside the system, especially when operating the convertible top manually or after one or more components of the system have been changed, or the fluid level has been very low. The system is a closed system and will self bleed in normal use. Sometimes external bleeding is however necessary, especially after work on the hydraulic system. Always check for leaks or faulty parts when confronted with a system in need of bleeding. It is not necessary to change components if air has been found inside the system and no other faults have been determined.

1. Remove the upper pad.
2. Remove the filler plug to the hydraulic pump reservoir.

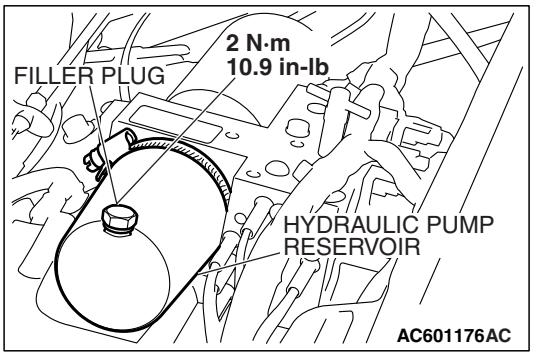
   NOTE: Fit the hydraulic pump reservoir filler plug for only 2 threads into the hydraulic pump reservoir. This to allow trapped air to escape better to the hydraulic pump reservoir. These pressure peaks and eventual fluid excesses can than be vented to the atmosphere, and so prevent damage to the hydraulic pump reservoir.



3. Make 3 complete cycles and check the function. Make sure that there are no oil leaks.
4. Check during the complete convertible top actuation the fluid level, eventual fill the hydraulic pump reservoir if necessary.

   Specified Fluid: MITSUBISHI Genuine fluid part No. 6559A074

5. Install the filler plug to the hydraulic pump resevroir.
6. Install the upper pad.

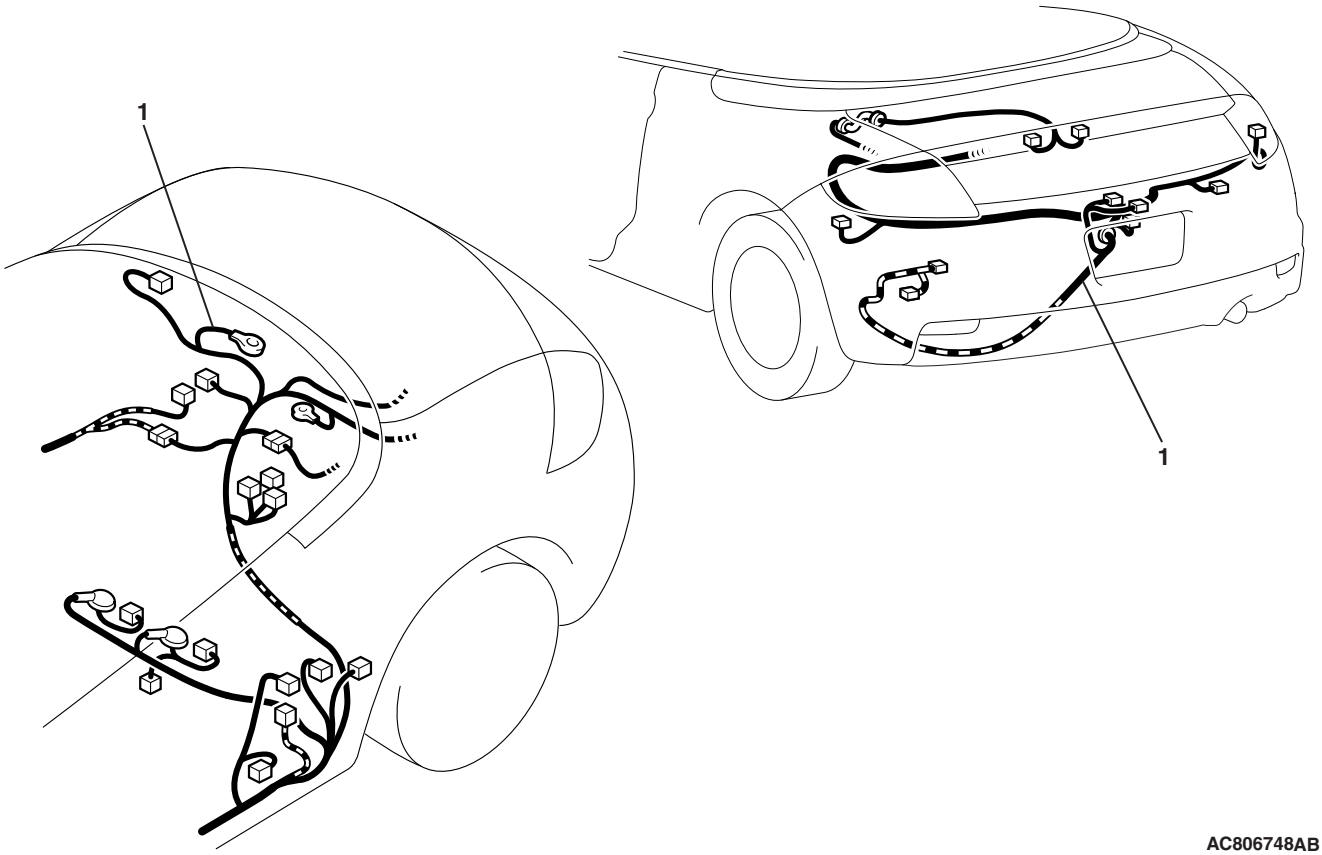


CONVERTIBLE TOP ASSEMBLY

REMOVAL AND INSTALLATION

M1426201100060

Pre-removal Operation	Post-installation Operation
• Completely Open the Convertible Top.	• Convertible Top Fit Adjustment (Refer to P.42-245.)



AC806748AB

REMOVAL STEPS

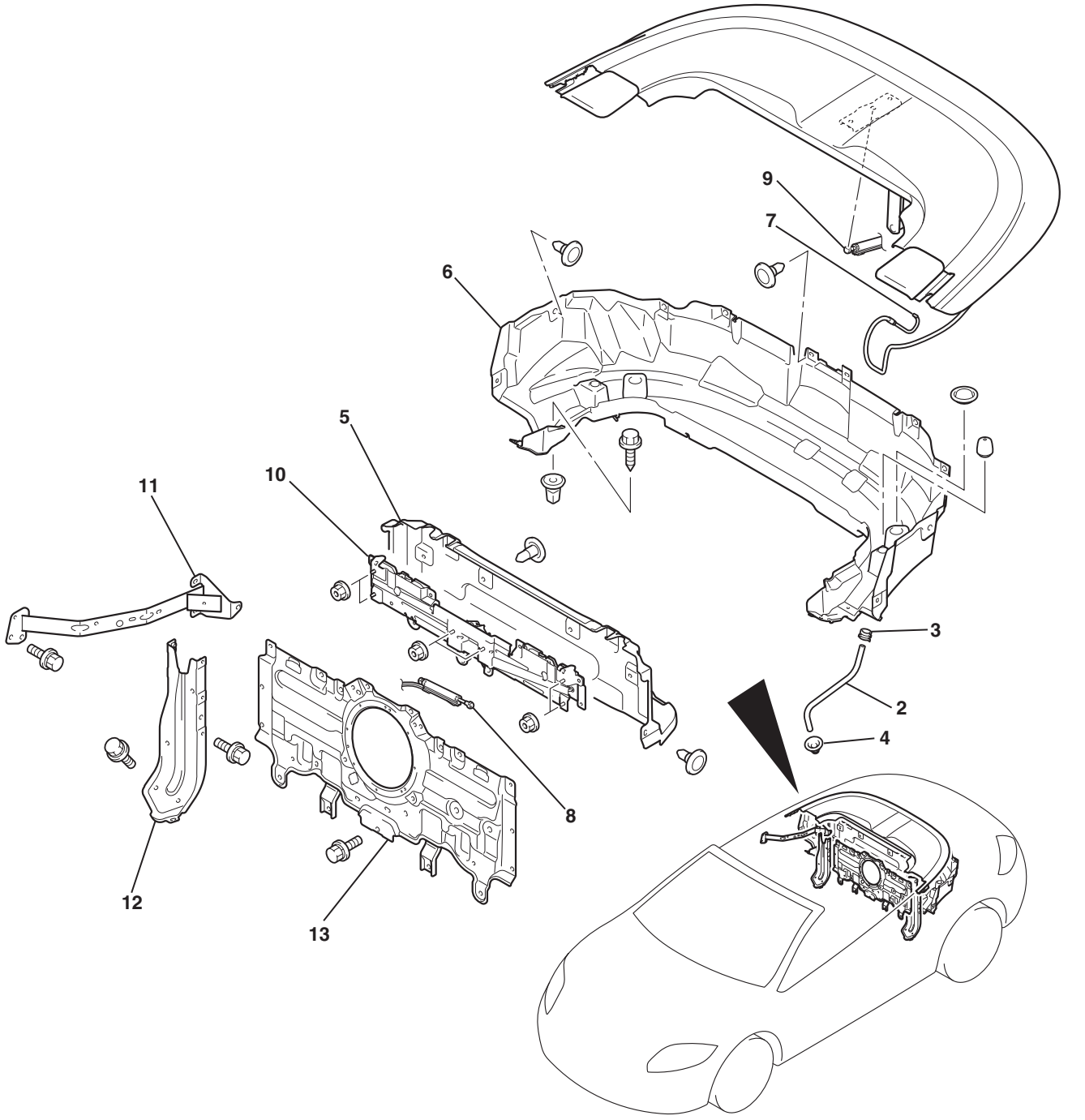
- REAR SEAT ASSEMBLY (REFER T0 GROUP 52A - REAR SEAT ASSEMBLY P.52A-49.)
- QUARTER TRIM COVER / QUARTER TRIM UPPER / QUARTER TRIM LOWER / QUARTER TRIM BRACKET / TRUNK ROOM FLOOR BOARD / REAR END TRIM / REAR END TRIM COVER / REAR END TRIM LID / TRUNK ROOM TRIM / TRUNK ROOM TRIM BRACKET (REFER TO GROUP 52A - TRIMS P.52A-30.)

REMOVAL STEPS (Continued)

- QUARTER SPEAKER / QUARTER SPEAKER BRACKET (REFER TO GROUP 54A – TRIMS P.54A-261.)
- ANTENNA FEEDER CABLE (TRUNK SIDE) (REFER TO GROUP 54A – ANTENNA P.54A-266.)

1. FLOWER WIRING HARNESS (THE REAR SIDE FROM REAR SEAT)

TSB Revision



AC511135AB

REMOVAL STEPS

2. DRAIN HOSE
3. CLAMP
4. DRAIN HOSE GROMMET

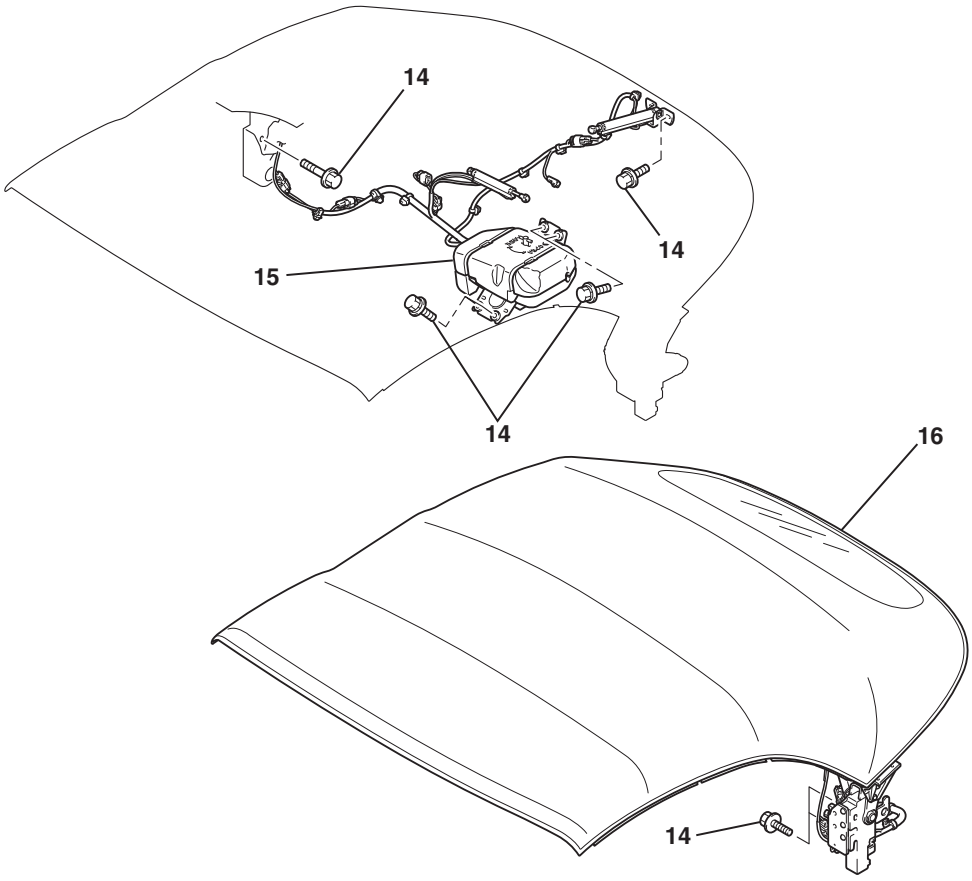
<<**A**>> 5. TONNEAU LATCH COVER

6. DRAIN TROUGH ASSEMBLY
7. FLIPPER DOOR CABLE
8. TONNEAU COVER LATCH ACTUATOR

REMOVAL STEPS (Continued)

9. TONNEAU COVER ACTUATOR
10. TONNEAU COVER LATCH ASSEMBLY
11. QUARTER INNER SIDE BAR
12. REAR SEAT BELT TOWER
13. SEAT BACK LOWER PANEL

TSB Revision

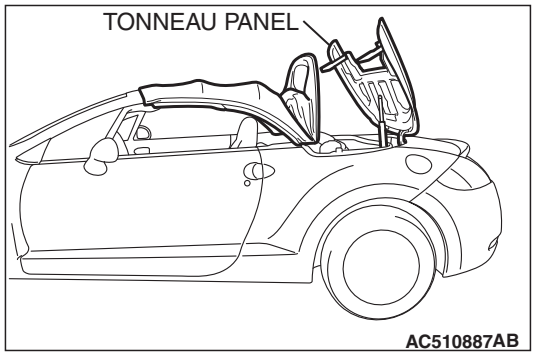


REMOVAL STEPS
14. CONVERTIBLE TOP ASSEMBLY MOUNT BOLTS

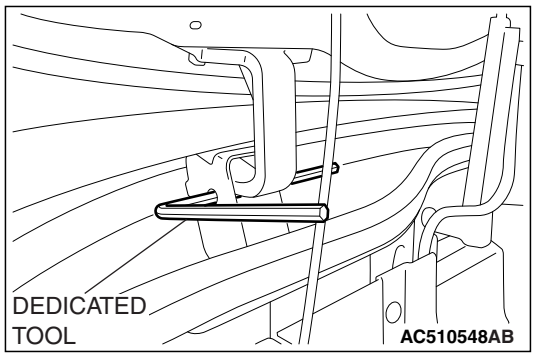
REMOVAL STEPS (Continued)
15. HYDRAULIC PUMP ASSEMBLY
16. CONVERTIBLE TOP ASSEMBLY

REMOVAL SERVICE POINT

<<A>> TONNEAU LATCH COVER REMOVAL



1. 5-bow and tonneau panel are opened.

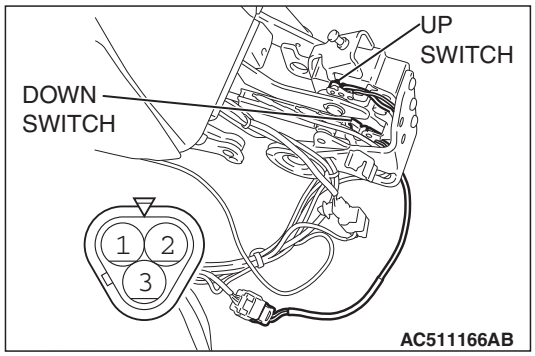


2. Raise the tonneau panel, and insert the dedicated tool into the hinge hole to hold the tonneau panel in place.
3. Remove the tonneau latch cover.

INSPECTION

M1426214600010

CONVERTIBLE TOP POSITION SWITCH CONTINUITY CHECK

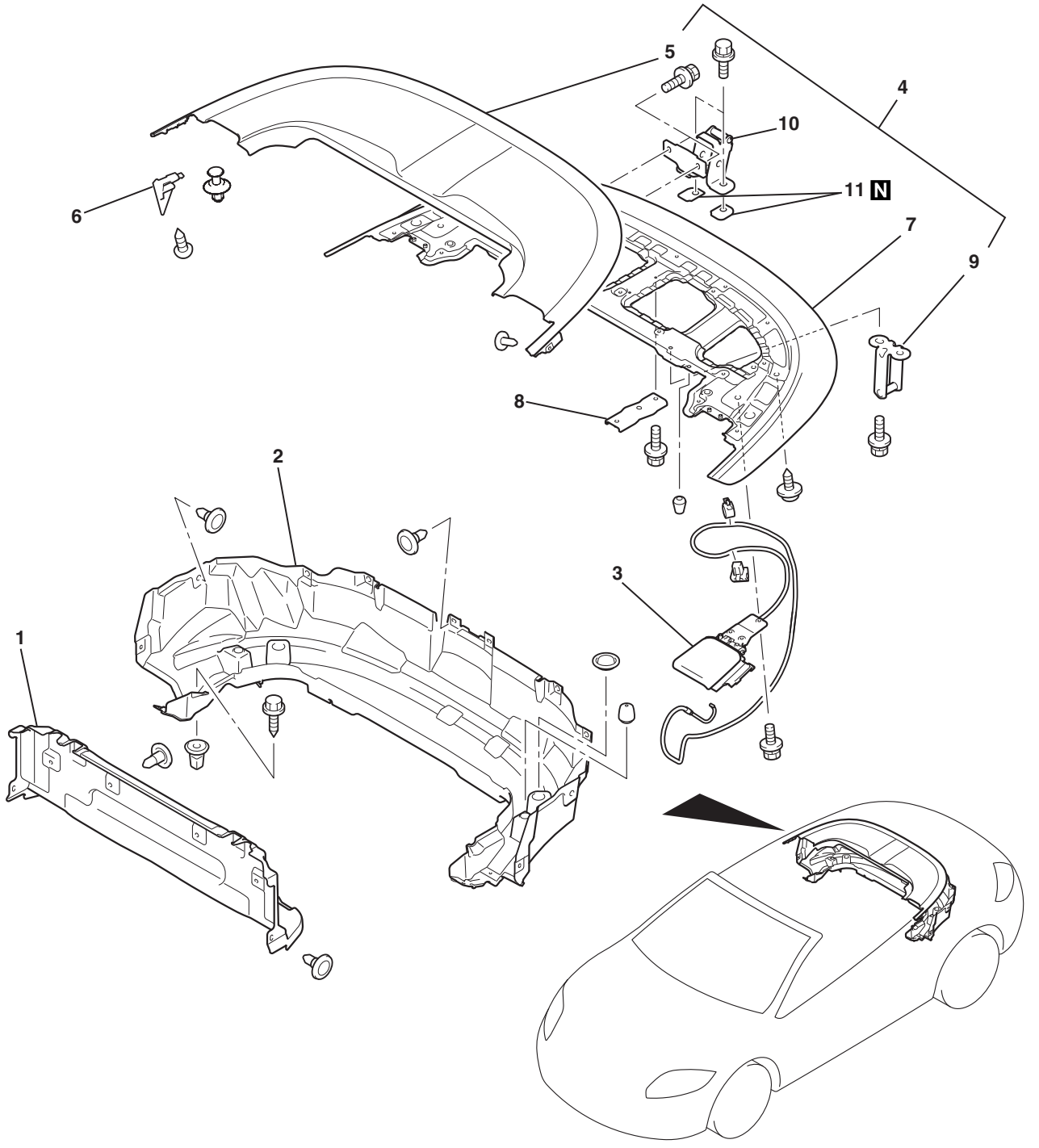


Switch	Convertible top position	Tester connection	Specified condition
UP SWITCH	CLOSE	2 – 1	Continuity exists (2 Ω or less)
	OPEN		Open circuit
DOWN SWITCH	CLOSE	2 – 3	Open circuit
	OPEN		Continuity exists (2 Ω or less)

TONNEAU PANEL ASSEMBLY

REMOVAL AND INSTALLATION

M1426213900029



AC806739AC

REMOVAL STEPS

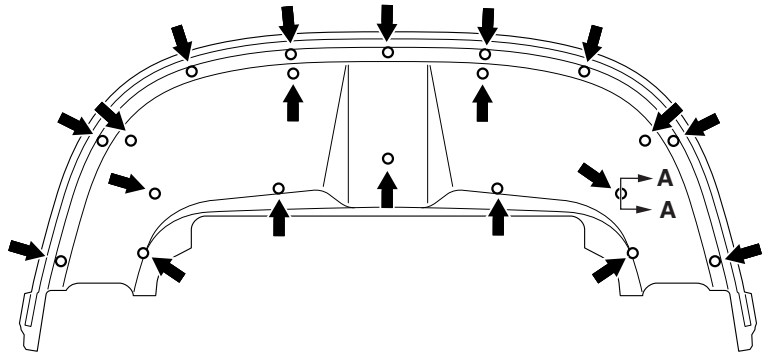
<<A>>
1. TONNEAU LATCH COVER
2. DRAIN TROUGH ASSEMBLY
3. FLIPPER DOOR ASSEMBLY
4. TONNEAU COVER ASSEMBLY
5. TONNEAU GARNISH ASSEMBLY
6. TONNEAU GARNISH POKER

REMOVAL STEPS (Continued)

7. TONNEAU PANEL ASSEMBLY
8. TONNEAU ACTUATOR BRACKET
9. TONNEAU COVER STRIKER
10. TONNEAU COVER HINGE
11. TONNEAU COVER HINGE PACKING

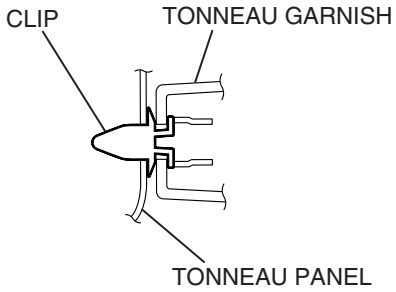
TSB Revision

CLIP POSITION



AC511168

SECTION A - A



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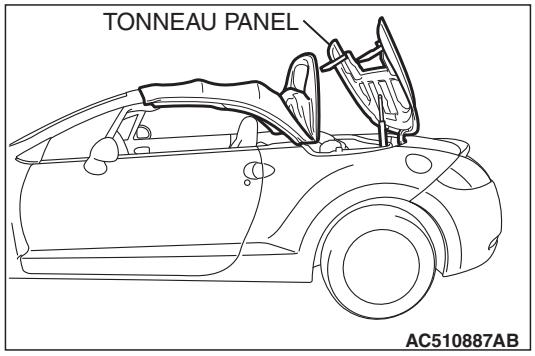
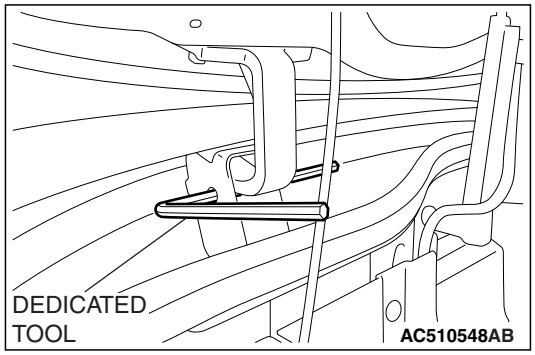
REMOVAL SERVICE POINT

<<A>> TONNEAU LATCH COVER REMOVAL



AC510887AB

1. 5-bow and tonneau panel are opened.



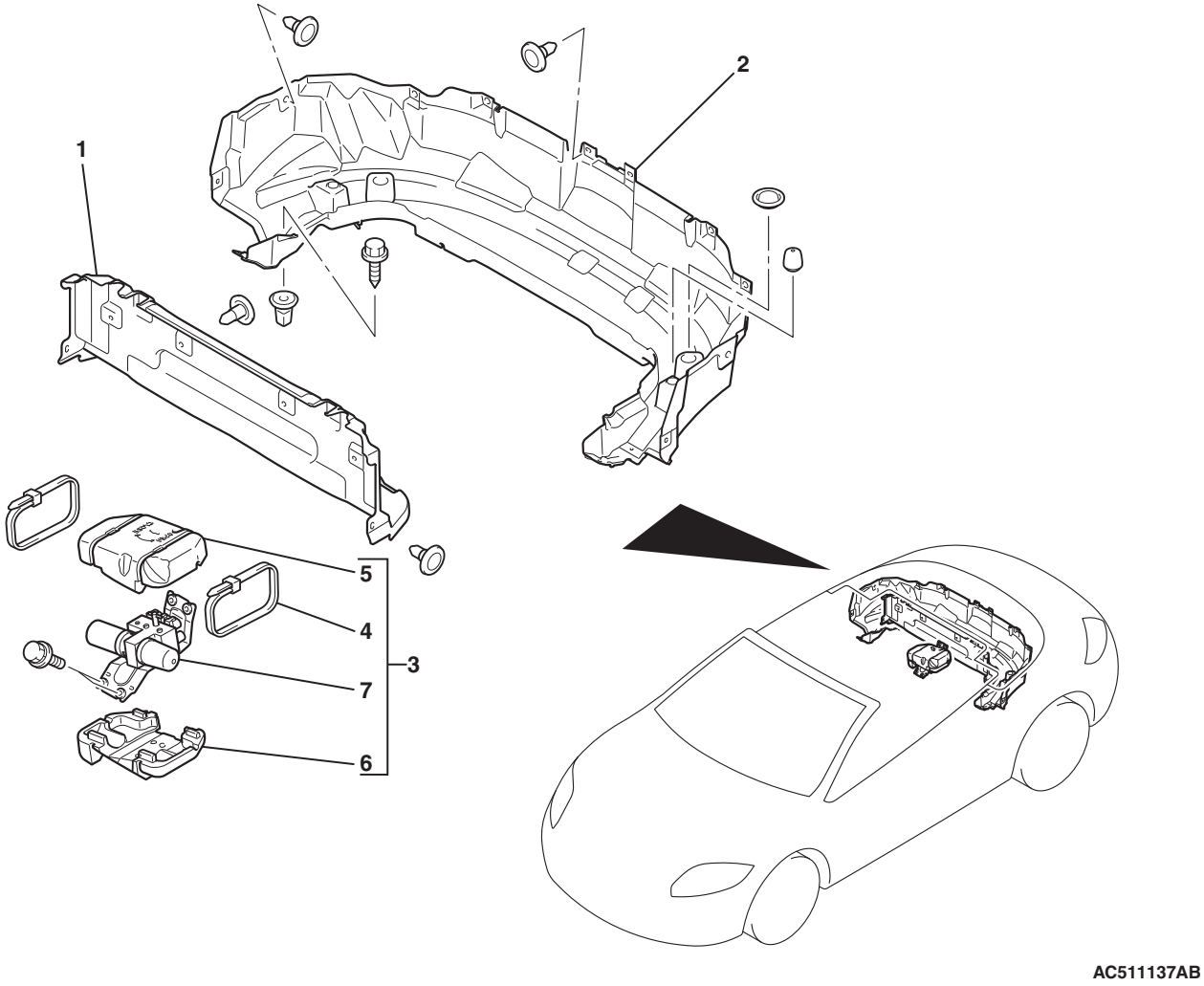
AC510548AB

2. Raise the tonneau panel, and insert the dedicated tool into the hinge hole to hold the tonneau panel in place.
3. Remove the tonneau latch cover.

TOPSTACK DRIVE MOTOR

REMOVAL AND INSTALLATION

M1426201700051



AC511137AB

REMOVAL STEPS

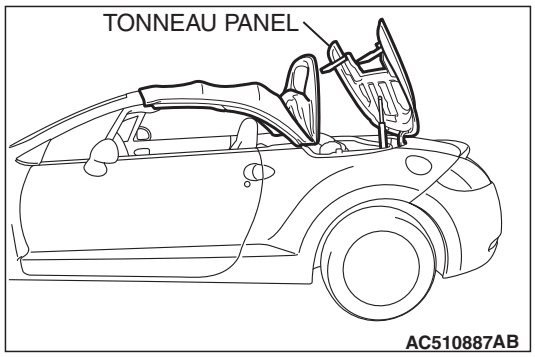
<<**A**>> 1. TONNEAU LATCH COVER
2. DRAIN TROUGH ASSEMBLY
3. HYDRAULIC PUMP ASSEMBLY
4. BAND

REMOVAL STEPS (Continued)

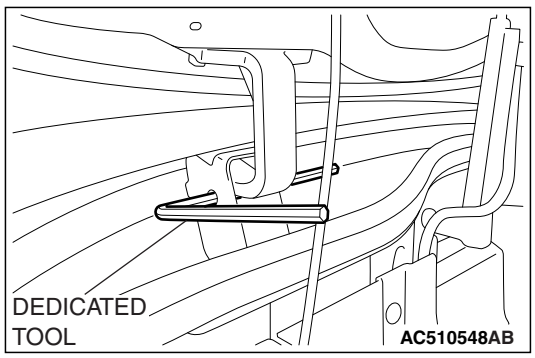
5. UPPER PAD
6. LOWER PAD
7. HYDRAULIC PUMP

REMOVAL SERVICE POINT

<<A>> TONNEAU LATCH COVER REMOVAL



1. 5-bow and tonneau panel are opened.

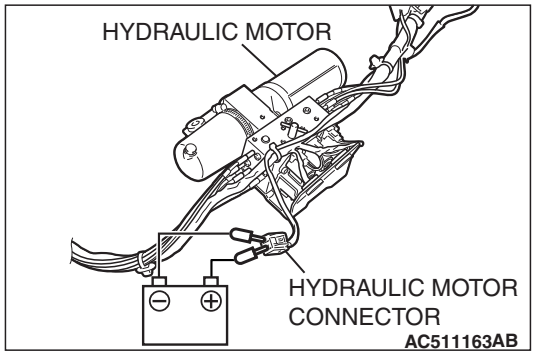


2. Raise the tonneau panel, and insert the dedicated tool into the hinge hole to hold the tonneau panel in place.
3. Remove the tonneau latch cover.

INSPECTION

M1426201800047

HYDRAULIC MOTOR ASSEMBLY CHECK



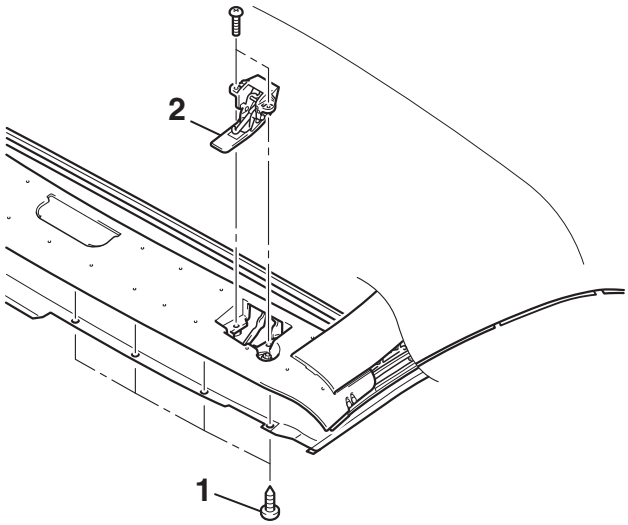
Check that the hydraulic motor assembly runs smoothly when the battery is connected directly to the motor terminals.

TOPSTACK LATCH ASSEMBLY

REMOVAL AND INSTALLATION

M1426208800059

Pre-removal Operation	Post-installation Operation
• Completely Open the Convertible Top.	• Convertible Top Fit Adjustment (Refer to P.42-245.)



AC511096AB

REMOVAL STEPS
- NO. 1 BOW GARNISH (REFER TO P.42-279.)

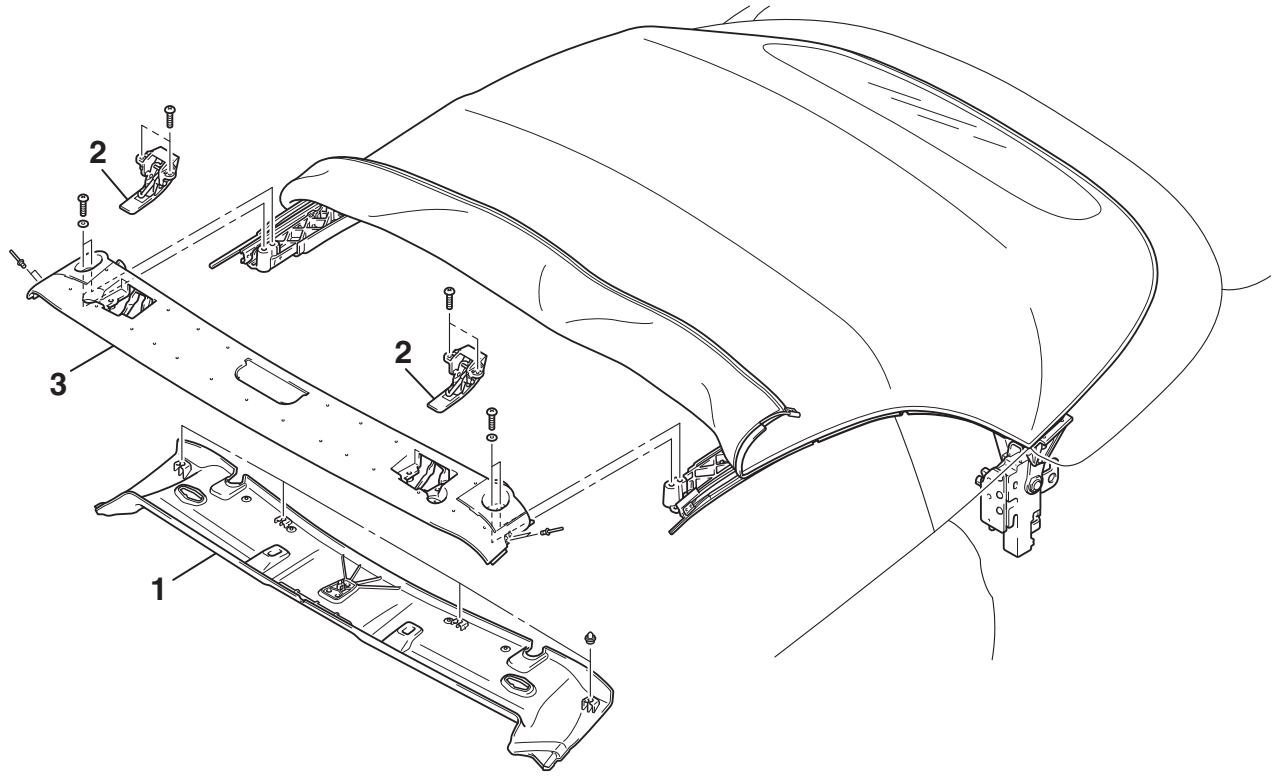
REMOVAL STEPS (Continued)
1. HEADLINER SCREW (REFER TO P.42-286.)
2. HEADER LATCH ASSEMBLY

TOPSTACK No.1 BOW

REMOVAL AND INSTALLATION

M1426206000068

Post-installation Operation
- Convertible Top Fit Adjustment (Refer to P.42-245.)



AC511097AB

REMOVAL STEPS
1. NO. 1 BOW GARNISH
- TOP COVER ASSEMBLY (REFER TO P.42-285.)
- TOPSTACK SIDE STAY PAD ASSEMBLY FROM NO.1 BOW (REFER TO P.42-284.)

REMOVAL STEPS (Continued)
- HEADLINER FROM NO.1 BOW (REFER TO P.42-286.)
2. TOPSTACK LATCH ASSEMBLY (REFER TO P.42-278.)
3. NO. 1 BOW

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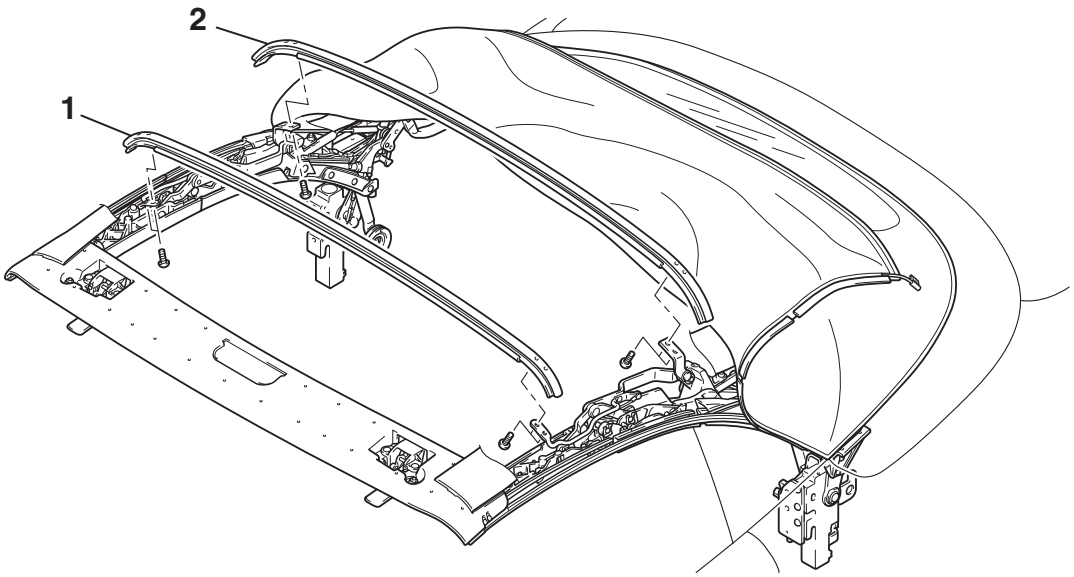
TOPSTACK No.2 AND No.3 BOWS

REMOVAL AND INSTALLATION

M1426206300058

Post-installation Operation
- Convertible Top Fit Adjustment (Refer to P.42-245.)



AC511098 AB

REMOVAL STEPS
- HEADLINER (REFER TO P.42-286. NOTE: ONLY REMOVE THE HEADLINER FROM THE NO.1, 2 AND/OR 3 BOWS AS REQUIRED)
- TOP COVER ASSEMBLY (REFER TO P.42-285. NOTE: ONLY REMOVE THE TOP COVER FROM THE NO.1, 2 AND/OR 3 BOWS AS REQUIRED)

REMOVAL STEPS (Continued)
- TOPSTACK SIDE STAY PAD ASSEMBLY (REFER TO P.42-284. NOTE: ONLY REMOVE THE TOP COVER FROM THE NO.1, 2 AND/OR 3 BOWS AS REQUIRED)

1. TOPSTACK NO.2 BOW
2. TOPSTACK NO.3 BOW

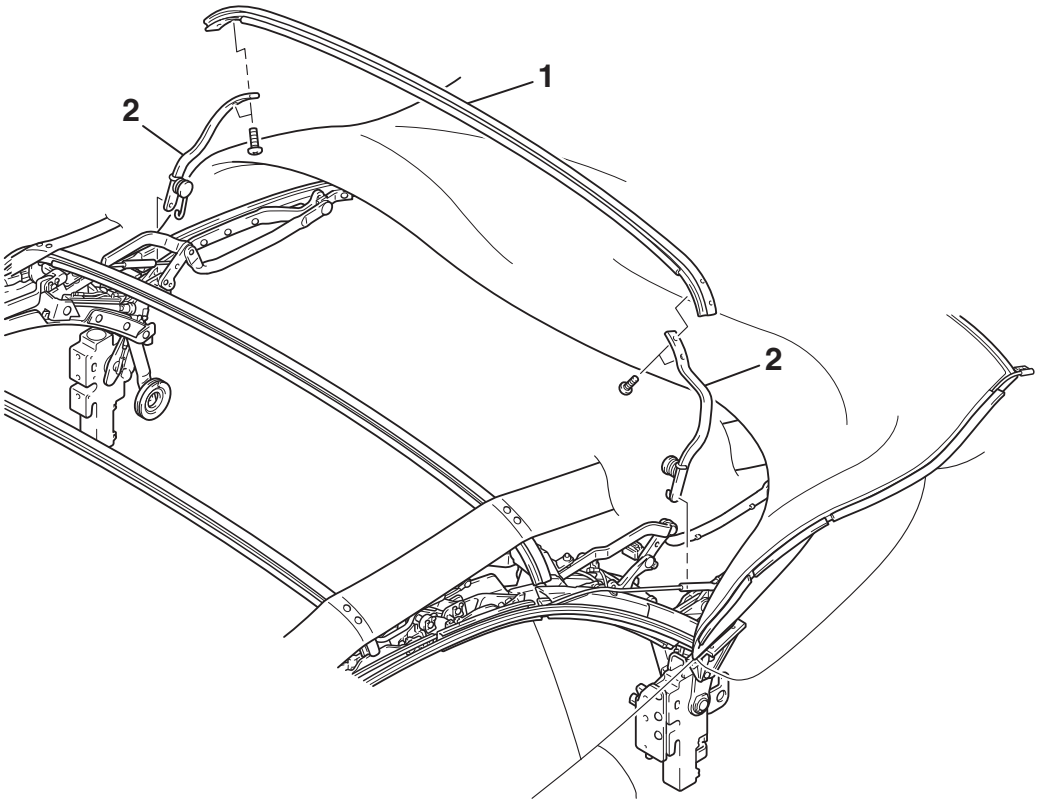
TSB Revision

TOPSTACK No.4 BOW

REMOVAL AND INSTALLATION

M1426206600060

Post-installation Operation
- Convertible Top Fit Adjustment (Refer to P.42-245.)



AC511099 AB

REMOVAL STEPS
- HEADLINER (REFER TO P.42-286. NOTE: ONLY REMOVE THE HEADLINER FROM THE HE NO. 1BOW, NO 2. BOW AND/OR NO. 3 BOW AS REQUIRED)
- TOP COVER ASSEMBLY (REFER TO P.42-285. NOTE: ONLY REMOVE THE TOP COVER FROM THE NO. 1 BOW, NO. 2 BOW AND/OR NO. 3 BOW AS REQUIRED)

REMOVAL STEPS (Continued)
- TOPSTACK SIDE STAY PAD ASSEMBLY (REFER TO P.42-284. NOTE: ONLY REMOVE THE TOP COVER FROM THE HE NO. 1 BOW, NO. 2 BOW AND/OR NO. 3 BOW AS REQUIRED)

1. NO. 4 BOW
2. SLAT

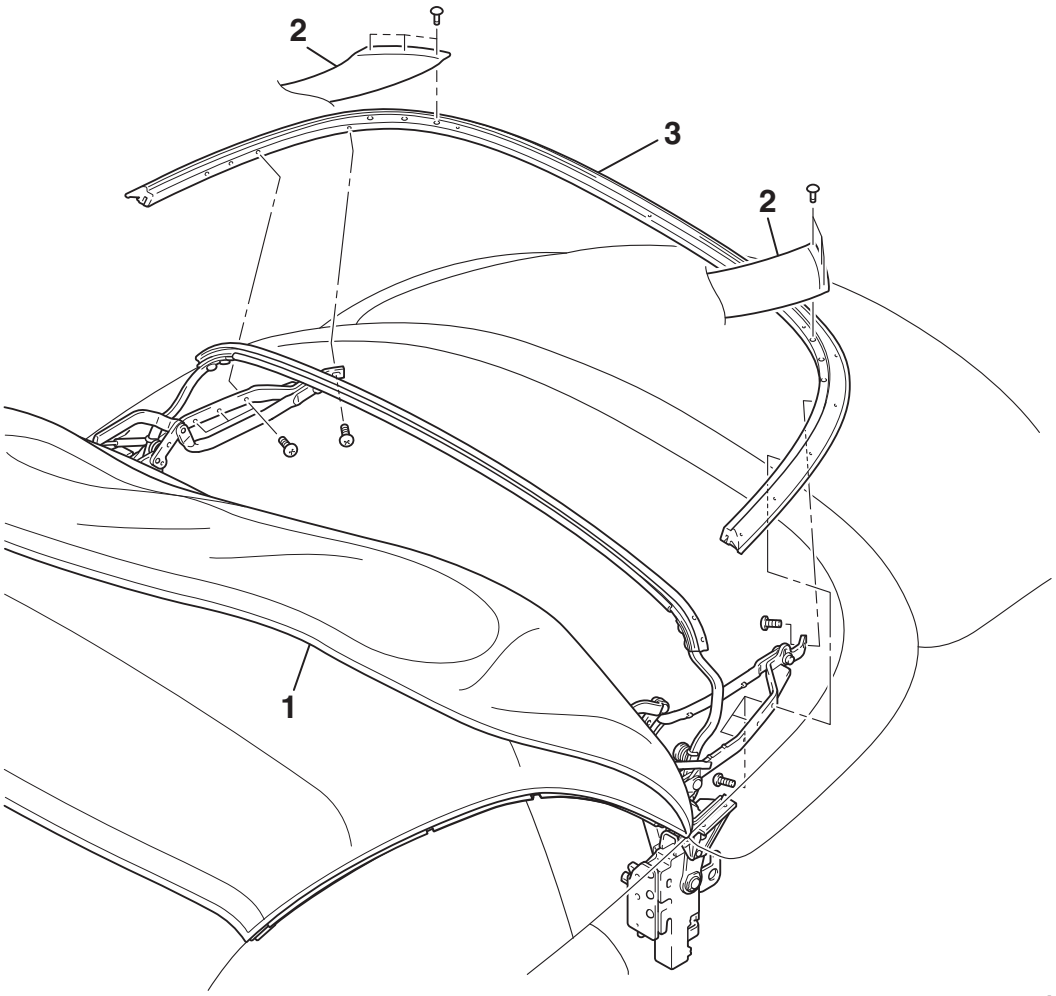
TSB Revision

TOPSTACK No.5 BOW

REMOVAL AND INSTALLATION

M1426205700053

Post-installation Operation
- Convertible Top Fit Adjustment (Refer to P.42-245.)



AC511100 AB

REMOVAL STEPS
1. TOP COVER ASSEMBLY AT NO.5 BOW CONNECTION

REMOVAL STEPS (Continued)
2. SIDE STAY PAD AT NO.5 BOW CONNECTION
3. NO.5 BOW

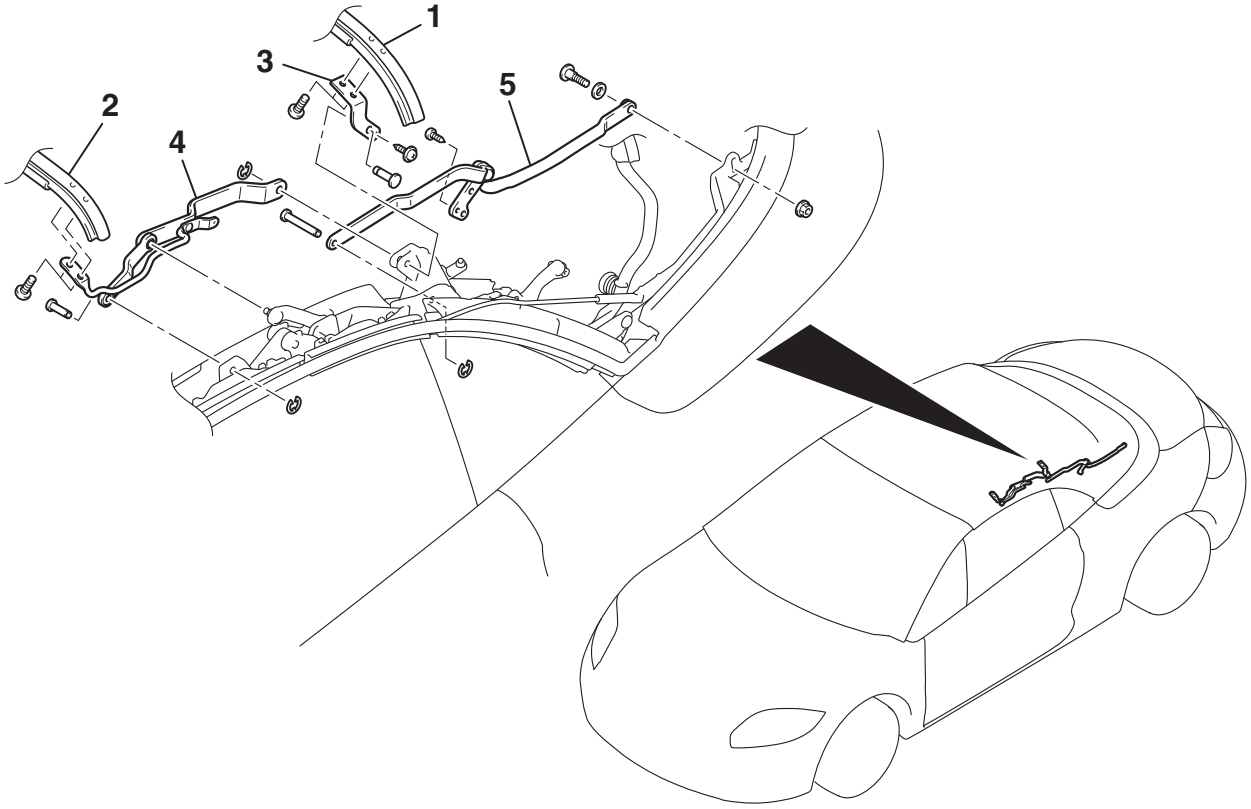
TSB Revision

TOPSTACK CONTROL LINK ASSEMBLY

REMOVAL AND INSTALLATION

M1426207800056

Pre-removal Operation	Post-installation Operation
• Completely Open the Convertible Top. • Completely Down the Quarter Window Glass.	• Convertible Top Fit Adjustment (Refer to P.42-245.)



AC511101AB

REMOVAL STEPS
1. 3-BOW
2. 2-BOW
3. 3-BOW BRACKET

REMOVAL STEPS (Continued)
4. CONTROL LINK A
5. CONTROL LINK B

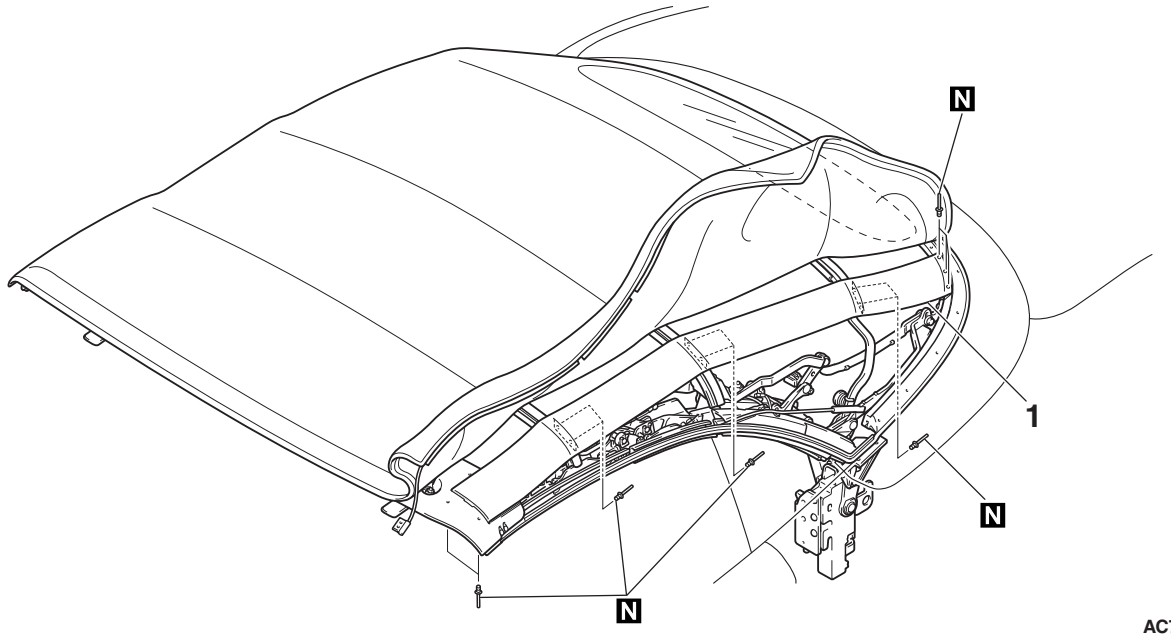
TSB Revision

TOPSTACK SIDE STAY PADS

REMOVAL AND INSTALLATION

M1426205400063

Post-installation Operation
- Convertible Top Fit Adjustment (Refer to P.42-245.)



AC700541AB

REMOVAL STEPS
- TOP COVER ASSEMBLY (REFER TO P.42-285.)

<<A>> >>A<< 1. TOPSTACK SIDE STAY PAD ASSEMBLY

REMOVAL SERVAICE POINT

<<A>> TOPSTACK SIDE STAY PAD ASSEMBLY REMOVAL

Refer to On-vehicle Service, Replace the Top Cover and Headliner. (Refer to P.42-260.)

INSTALLATION SERVICE POINT

>>A<< TOPSTACK SIDE STAY PAD ASSEMBLY INSTALLATION

Refer to On-vehicle Service, Replace the Top Cover and Headliner. (Refer to P.42-260.)

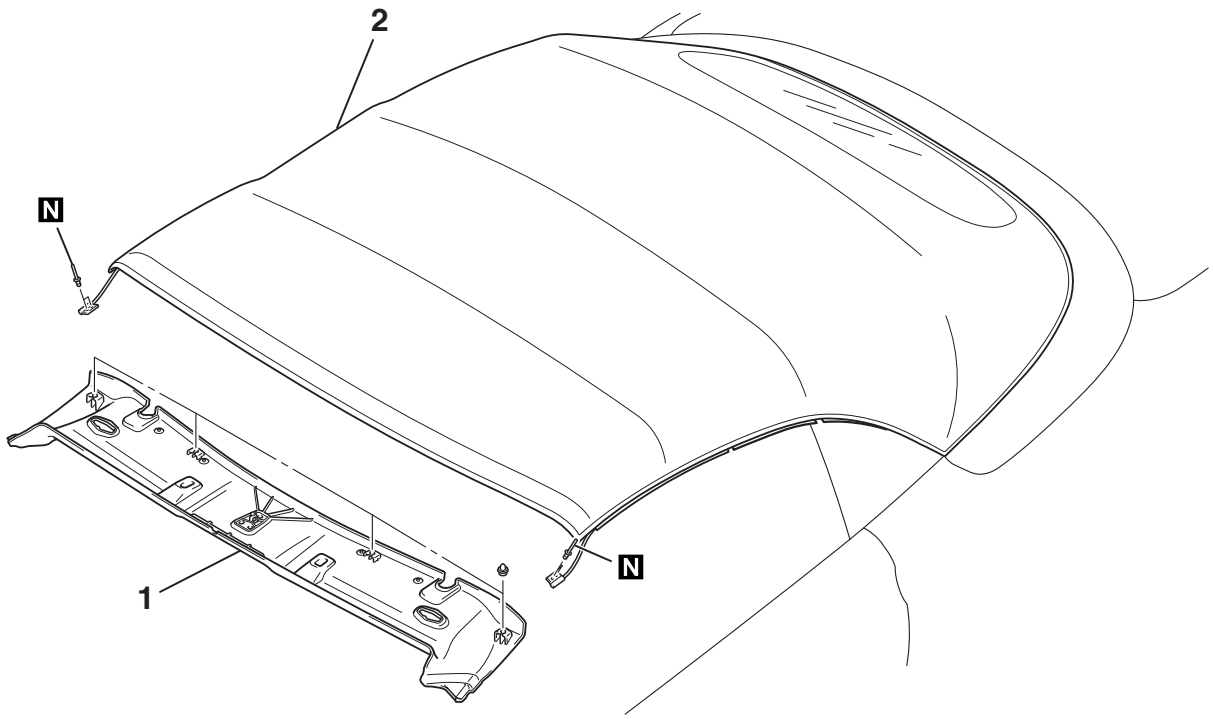
TSB Revision

TOP COVER ASSEMBLY

REMOVAL AND INSTALLATION

M1426205100062

Post-installation Operation
- Convertible Top Fit Adjustment (Refer to P.42-245.)



AC511103AB

REMOVAL STEPS
- HEADLINER (REFER TO P.42-286.)

REMOVAL STEPS (Continued)
1. NO. 1 BOW GARNISH
<<A>> >>A<< 2. TOP COVER ASSEMBLY

REMOVAL SERVICE POINT

<<A>> TOP COVER ASSEMBLY REMOVAL

Refer to On-vehicle Service, Replace the Top Cover and Headliner. (Refer to P.42-260.)

INSTALLATION SERVICE POINT

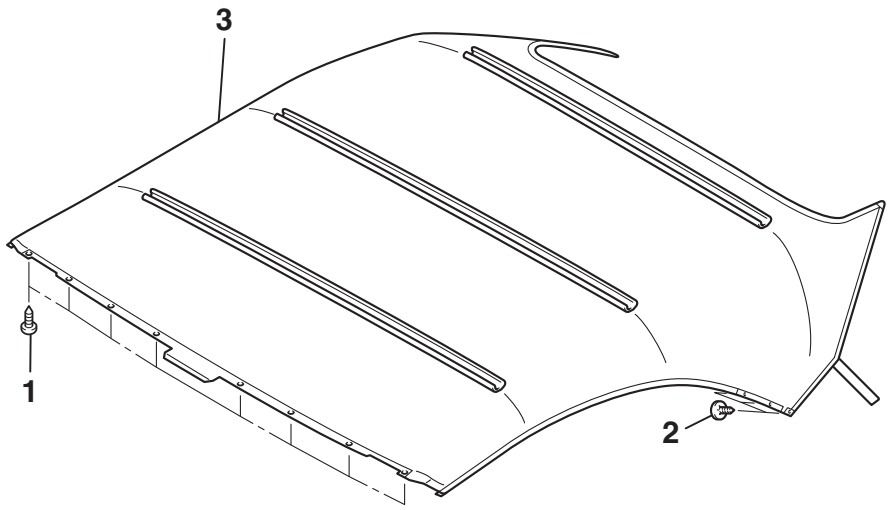
>>A<< TOP COVER ASSEMBLY INSTALLATION

Refer to On-vehicle Service, Replace the Top Cover and Headliner. (Refer to P.42-260.)

TSB Revision

HEADLINER
REMOVAL AND INSTALLATION

M1426201500068



AC511104 AB

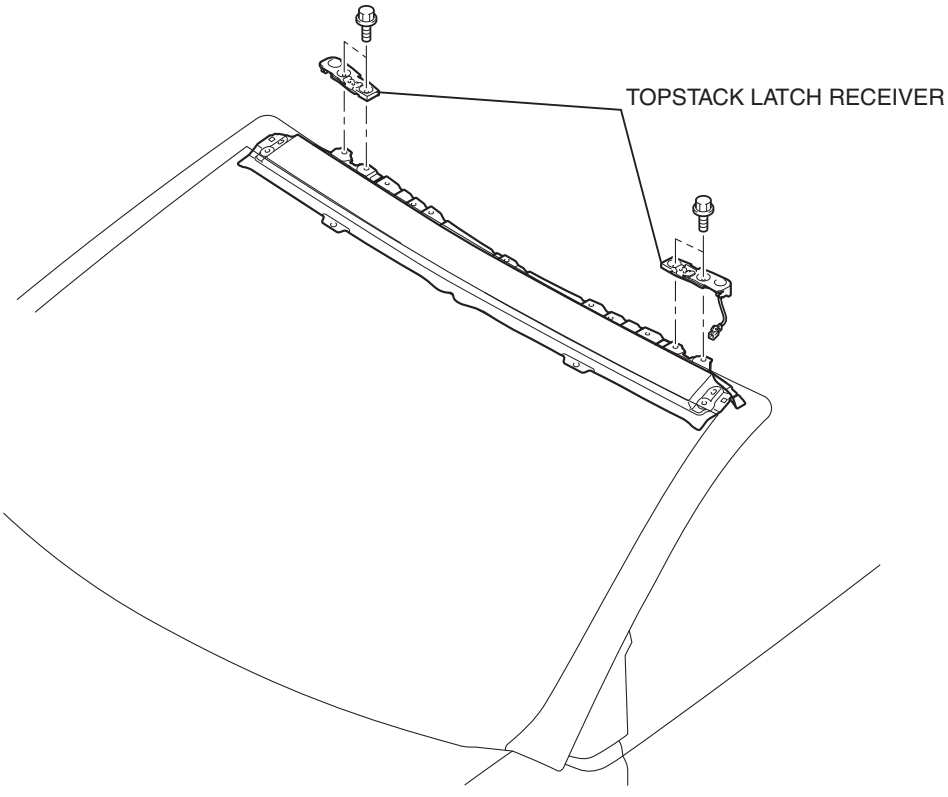
REMOVAL STEPS
- NO. 1 BOW GARNISH (REFER TO P.42-279.)

1. SCREW
2. SCREW
3. HEADLINER

TOPSTACK FRONT HEADER LATCH RECEIVER
REMOVAL AND INSTALLATION

M1426207200065

Pre-removal Operation
- Completely Open the Convertible Top.



AC712148AB

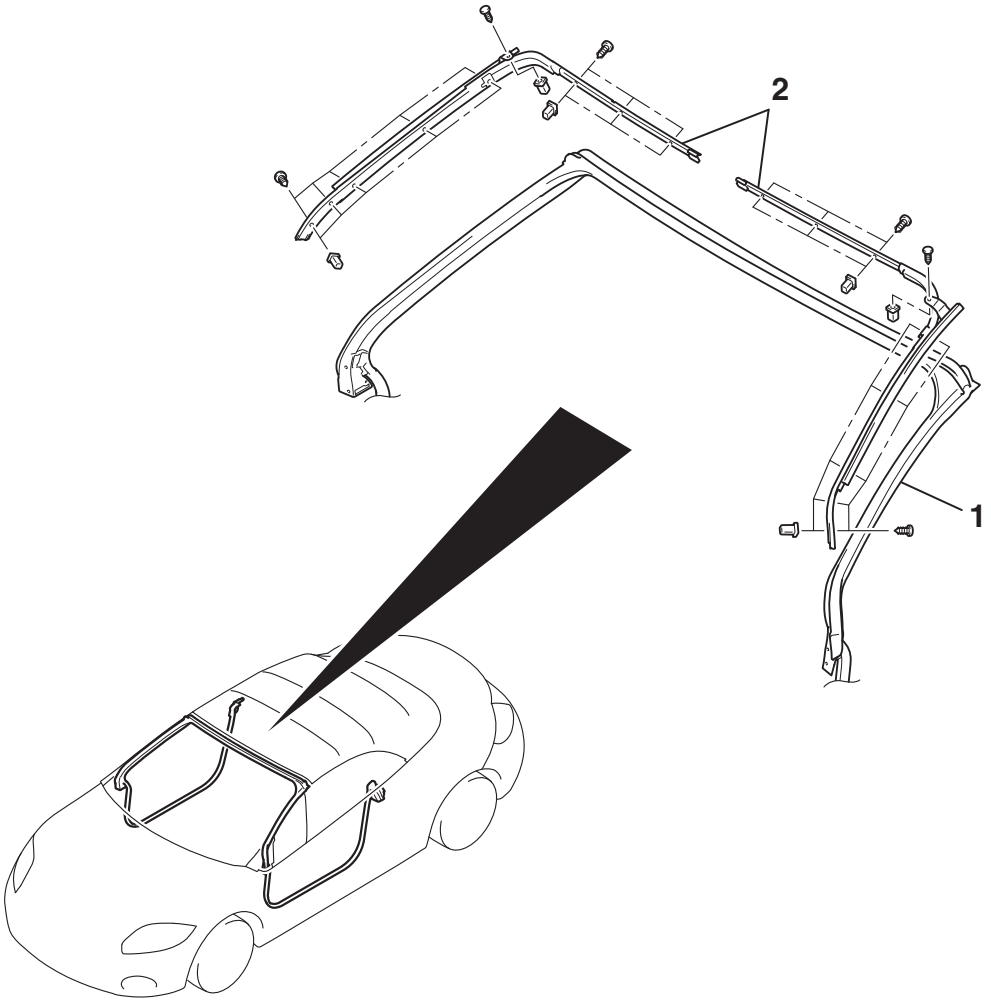
TSB Revision

FRONT ROOF WEATHERSTRIP

REMOVAL AND INSTALLATION

M1426202000066

Pre-removal Operation	Post-installation Operation
• Completely Open the Convertible Top.	• Convertible Top Fit Adjustment (Refer to P.42-245.)



AC511106 AB

REMOVAL STEPS

- TOPSTACK LATCH RECEIVER (REFER TO P.42-278.)

REMOVAL STEPS (Continued)

1. FRONT ROOF WEATHERSTRIP
2. FRONT ROOF WEATHERSTRIP HOLDER

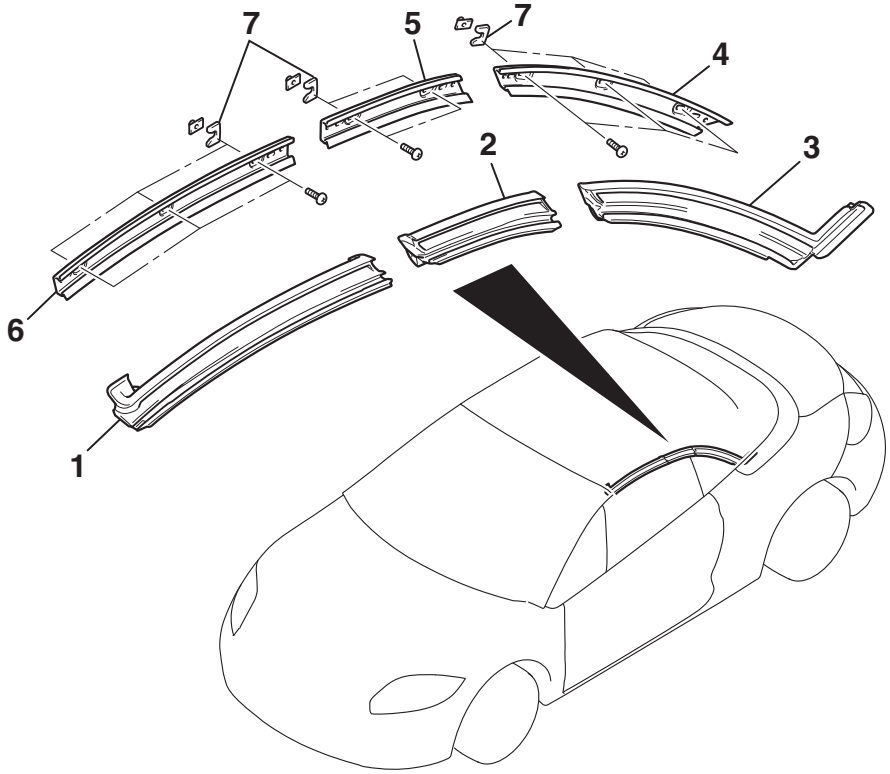
TSB Revision

TOPSTACK RAIL WEATHERSTRIP

REMOVAL AND INSTALLATION

M1426208600055

Pre-removal Operation	Post-installation Operation
• Completely Open the Convertible Top. • Completely Down the Quarter Window Glass. • Turn up the top cover to expose the side rail (Removal of the topstack No.5-bow mounting rivet is not necessary) (Refer to P.42-285). • Remove the topstack side stay pad from the topstack No.1-bow (Refer to P.42-284).	• Install the topstack side stay pad to the topstack No.1 bow (Refer to P.42-284). • Install the top cover (Refer to P.42-285). • Convertible Top Fit Adjustment (Refer to P.42-245).



AC612374AB

REMOVAL STEPS

1. TOPSTACK FRONT RAIL WEATHERSTRIP
2. TOPSTACK CENTER RAIL WEATHERSTRIP
3. TOPSTACK REAR RAIL WEATHERSTRIP
>>A<< 4. TOPSTACK REAR RAIL WEATHERSTRIP HOLDER
>>A<< 5. TOPSTACK CENTER RAIL WEATHERSTRIP HOLDER

REMOVAL STEPS (Continued)

>>A<< 6. TOPSTACK FRONT RAIL WEATHERSTRIP HOLDER
>>A<< 7. SHIM

Required Special Tools:

- MB992171: Retainer adjust block set
  - MB992172: Retainer adjust block A
  - MB992173: Retainer adjust block B
- MB992186: Retainer setting hanger LH
- MB992187: Retainer setting hanger RH

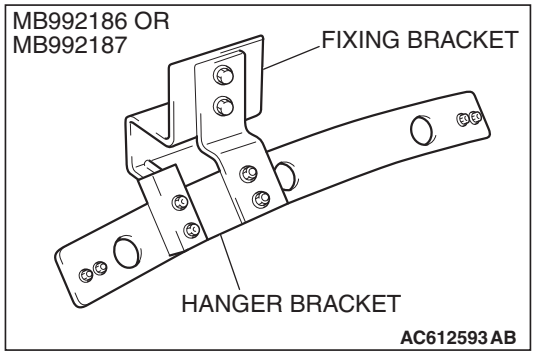
TSB Revision

INSTALLATION SERVICE POINT

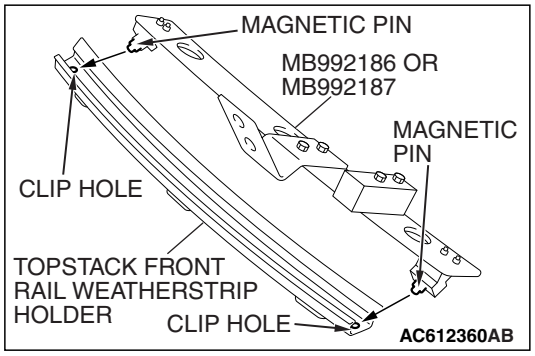
>>A<< SHIM/TOPSTACK FRONT RAIL WEATHERSTRIP HOLDER/TOPSTACK CENTER RAIL WEATHERSTRIP HOLDER/TOPSTACK REAR RAIL WEATHERSTRIP HOLDER INSTALLATION

⚠ CAUTION

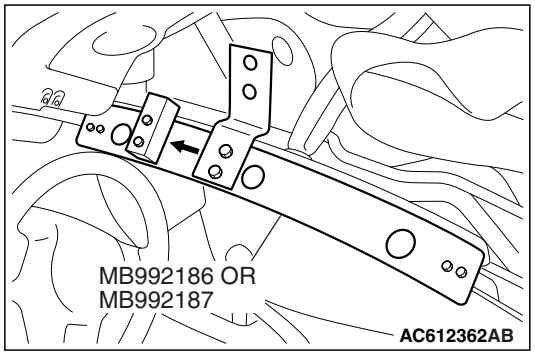
When adjusting the topstack rail weatherstrip holder, decide the position in the order of front, center, and then rear.



1. Separate special tool MB992186 or MB992187 into the fixing bracket and the hanger bracket.

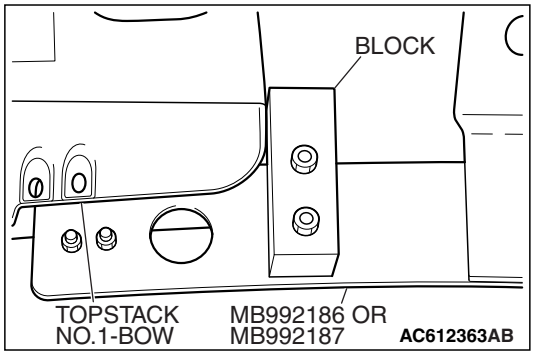


2. Install the magnetic pins on the hanger bracket of special tool MB992186 or MB992187 to the clip holes of the topstack front rail weatherstrip holder.

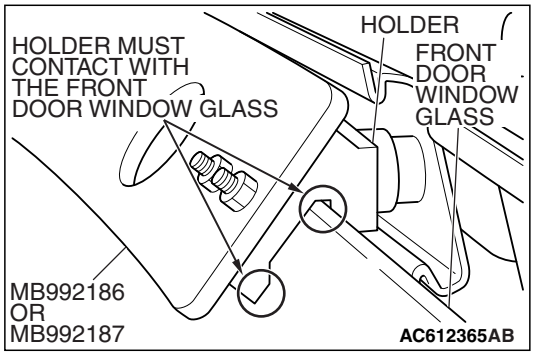


3. Slide and install the hanger bracket of special tool MB992186 or MB992187, to which the topstack front rail weatherstrip holder was attached in Step 2, from behind the front door window glass.

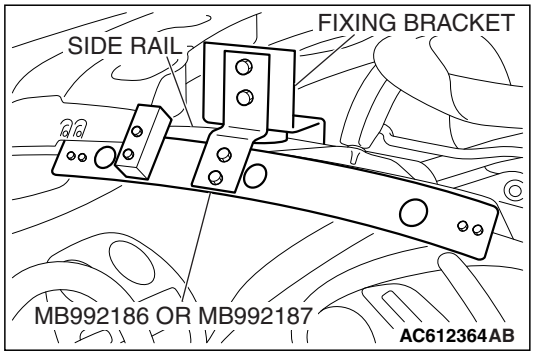
   NOTE: Close the front door window glass fully.



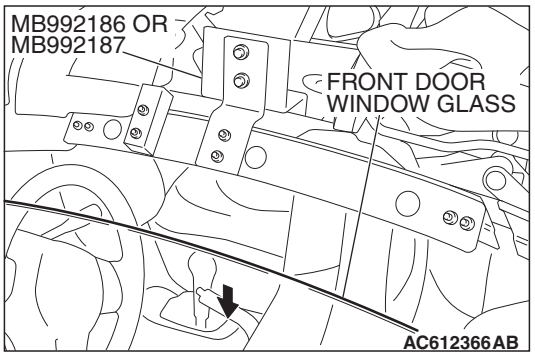
4. Make the block on the hanger bracket of special tool MB992186 or MB992187 touch the topstack No.1-bow to decide the hanger bracket position in longitudinal direction.



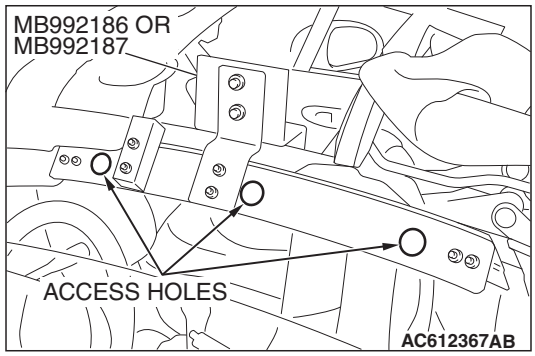
⚠ CAUTION
When fixing special tool MB992186 or MB992187 to the side rail, make sure that the holders at the front and back of the special tool are in contact with the front door window glass securely. Then, adjust the special tool MB992186 or MB992187 so that the front door window glass is not stressed in the right and left direction, and fix the special tool to the side rail.



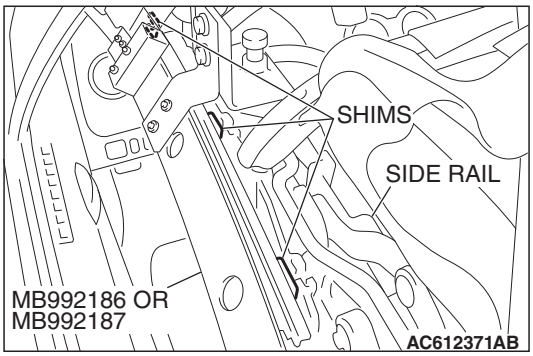
5. Install the fixing bracket of special tool MB992186 or MB992187 to the hanger bracket of special tool MB992186 or MB992187, and fix special tool MB992186 or MB992187 to the side rail.



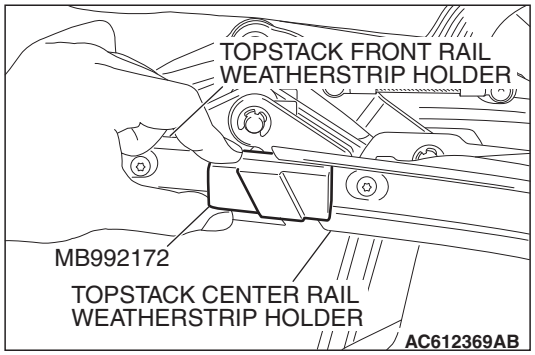
6. Lower the front door window glass to create sufficient clearance for installation of the topstack front rail weatherstrip holder screws from the access holes of special tool MB992186 or MB992187.



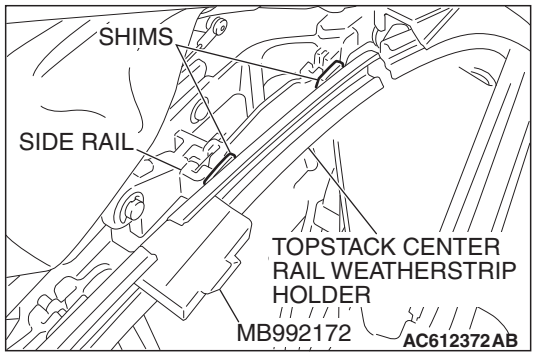
7. Temporarily install the screws of the topstack front rail weatherstrip holder (3 places) from the access holes of special tool MB992186 or MB992187.



8. Select shims that fit into the clearance between the side rail and the topstack front rail weatherstrip holder, and install them (3 places).
9. Tighten the screws of the topstack front rail weatherstrip holder (3 places) from the access holes of special tool MB992186 or MB992187.
10. Remove special tool MB992186 or MB992187.
11. Temporarily install the screws of the topstack center rail weatherstrip holder (2 places).



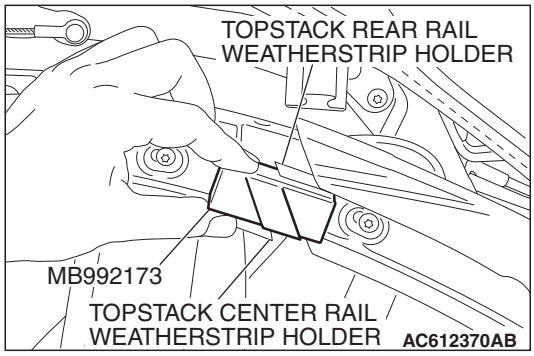
12. Install special tool MB992172 between the topstack front rail weatherstrip holder and the topstack center rail weatherstrip holder. Use special tool MB992172 to align the topstack center rail weatherstrip holder with the topstack front rail weatherstrip holder.



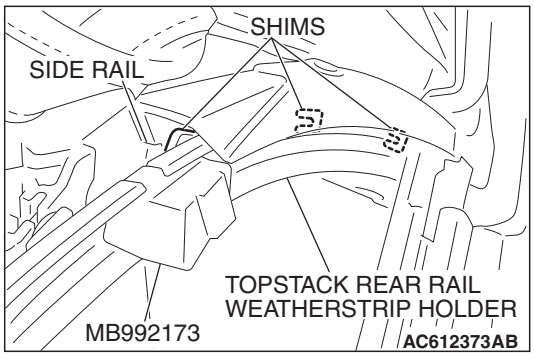
13. Select shims that fit into the clearance between the side rail and the topstack center rail weatherstrip holder, and install them (2 places).
14. Tighten the screws of the topstack center rail weatherstrip holder (2 places).
15. Remove special tool MB992172.
16. Visually check the topstack front rail weatherstrip holder and the topstack center rail weatherstrip holder that they are aligned continuously in the lateral direction and vertical direction.
17. Install special tool MB992172 between the topstack front rail weatherstrip holder and the topstack center rail weatherstrip holder again. Use special tool MB992172 to check that the topstack center rail weatherstrip holder is aligned with the topstack front rail weatherstrip holder.

    NOTE: If the installation condition is good, the adjustment is complete.

    NOTE: If the installation condition is not good, repeat from Step 11.
18. Temporarily install the screws of the topstack rear rail weatherstrip holder (3 places).



19. Install special tool MB992173 between the topstack center rail weatherstrip holder and the topstack rear rail weatherstrip holder. Use special tool MB992173 to check that the topstack rear rail weatherstrip holder is aligned with the topstack center rail weatherstrip holder.



20. Select shims that fit into the clearance between the side rail and the topstack rear rail weatherstrip holder, and install them (3 places).
21. Tighten the screws of the topstack rear rail weatherstrip holder (3 places).
22. Remove special tool MB992173.
23. Visually check the topstack center rail weatherstrip holder and the topstack rear rail weatherstrip holder that they are aligned continuously in the lateral direction and vertical direction.
24. Install special tool MB992173 between the topstack center rail weatherstrip holder and the topstack rear rail weatherstrip holder again. Use special tool MB992173 to check that the topstack rear rail weatherstrip holder is aligned with the topstack center rail weatherstrip holder.

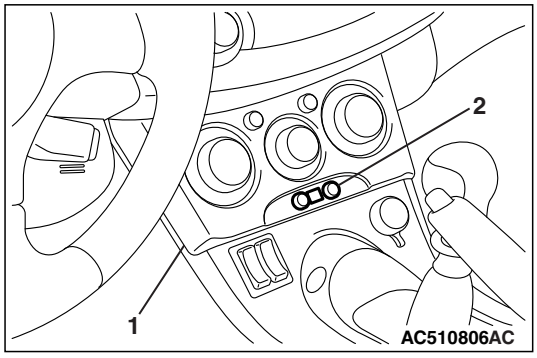
    NOTE: If the installation condition is good, the adjustment is complete.

    NOTE: If the installation condition is not good, repeat from Step 18.

CONVERTIBLE TOP SWITCH

REMOVAL AND INSTALLATION

M1426202400053



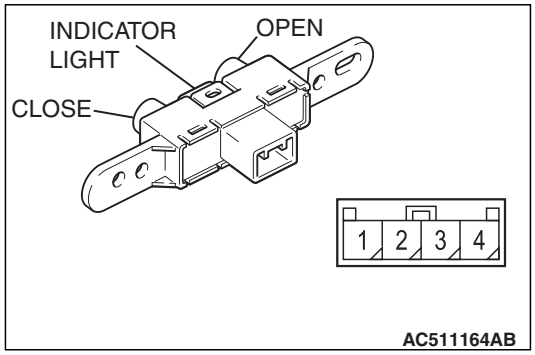
REMOVAL STEPS

1. CENTER PANEL ASSEMBLY (REFER TO GROUP 52A – FLOOR CONSOLE ASSEMBLY P.52A-28.)
2. CONVERTIBLE TOP SWITCH

INSPECTION

M1421007600785

CONVERTIBLE TOP SWITCH CHECK

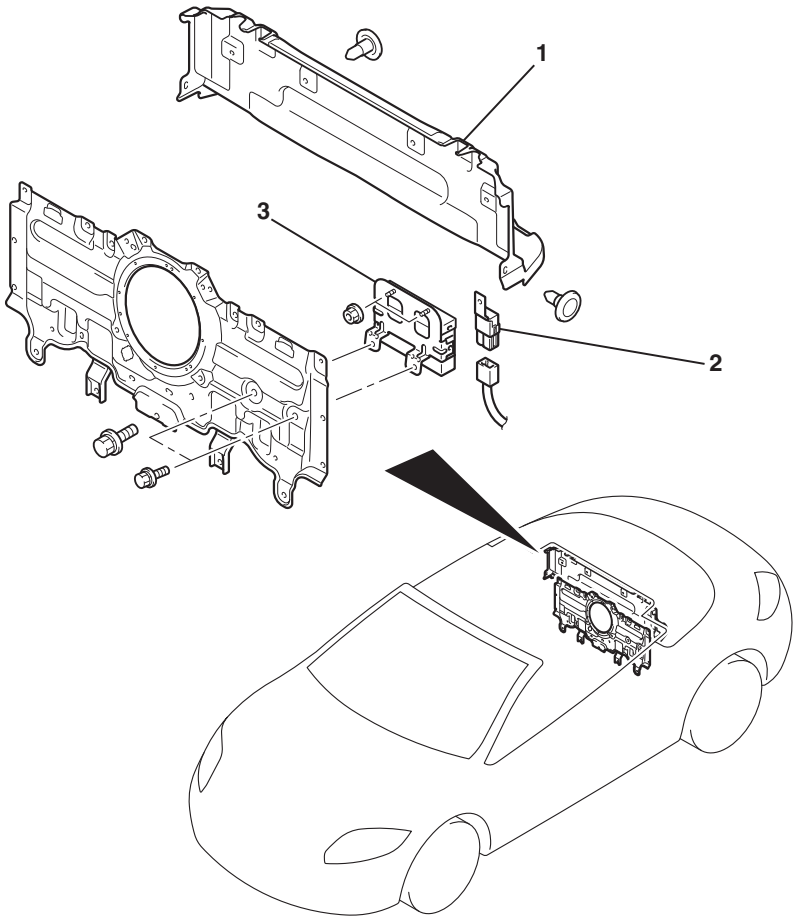


Switch position	Tester connection	Specified condition
CLOSE	3 – 4	Continuity exists (2 Ω or less)
OPEN	1 – 3	Continuity exists (2 Ω or less)

CONVERTIBLE TOP CONTROL MODULE

REMOVAL AND INSTALLATION

M1426203000058



REMOVAL STEPS

- REAR SEAT BACK (REFER TO GROUP 52A – REAR SEAT P.52A-49.)

<<**A**>> 1. TONNEAU LATCH COVER

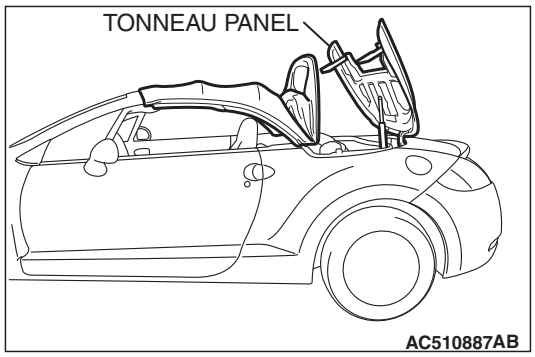
REMOVAL STEPS (Continued)

2. CONVERTIBLE TOP RELAY
3. CONVERTIBLE TOP CONTROL MODULE

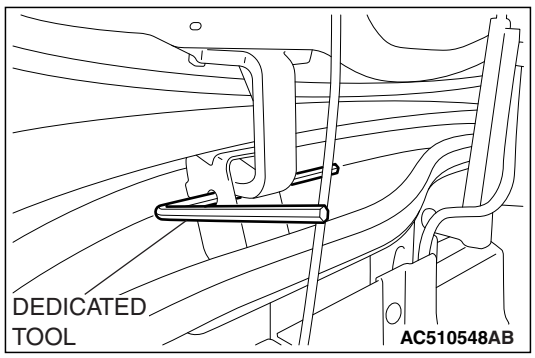
TSB Revision

REMOVAL SERVICE POINT

<<A>> TONNEAU LATCH COVER REMOVAL



1. 5-bow and tonneau panel are opened.



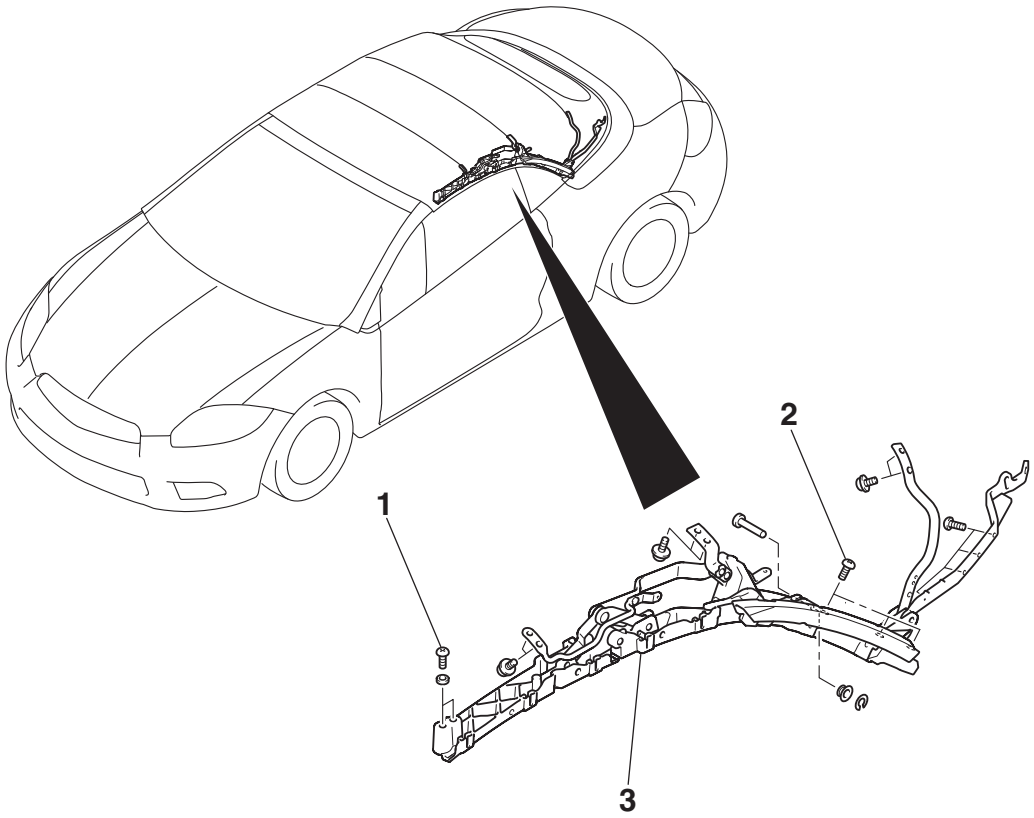
2. Raise the tonneau panel, and insert the dedicated tool into the hinge hole to hold the tonneau panel in place.
3. Remove the tonneau latch cover.

SIDE RAIL

REMOVAL AND INSTALLATION

M1426215500027

Post-installation Operation
- Convertible Top Fit Adjustment (Refer to P.42-245.)



AC711797AB

REMOVAL STEPS
- TOPSTACK FRONT RAIL WEATHERSTRIP (REFER TO P.42-288.)
- NO. 1 BOW GARNISH (REFER TO P.42-279.)
- HEADLINER (REFER TO P.42-286.)
- DEFROST WIRE CONNECTOR CONNECTION
- TOPSTACK CENTER RAIL WEATHERSTRIP, TOPSTACK REAR RAIL WEATHERSTRIP (REFER TO P.42-288.)
- TOP COVER (REFER TO P.42-270.)
- TOPSTACK FRONT RAIL HOLDER, TOPSTACK CENTER RAIL HOLDER, TOPSTACK REAR RAIL HOLDER (REFER TO P.42-288.)

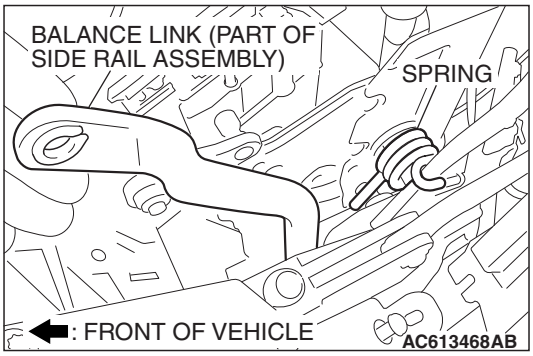
REMOVAL STEPS (Continued)
- TOPSTACK SIDE STAY PAD ASSEMBLY (REFER TO P.42-284.)
- NO.2 BOW AND NO.3 BOW (REFER TO P.42-280.)
- NO. 4 BOW (REFER TO P.42-281.)
- NO.5 BOW (REFER TO P.42-282.)
- CONTROL LINK B (REFER TO P.42-283.)
- NO. 5 BOW CYLINDER (WITHOUT SENSOR) (REFER TO P.42-297.)

1. NO. 1 BOW MOUNTING SCREW
>>**B**<< 2. SIDE RAIL ASSEMBLY MOUNTING SCREW
>>**A**<< 3. SIDE RAIL ASSEMBLY

TSB Revision

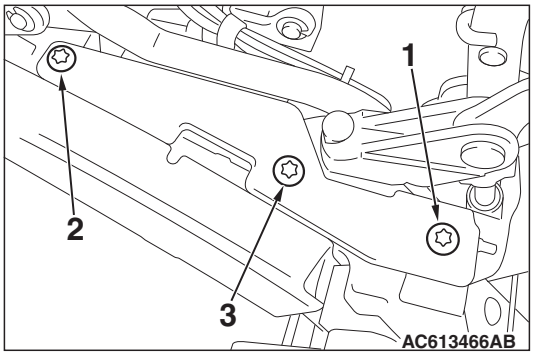
INSTALLATION SERVICE POINTS

>>A<< SIDE RAIL ASSEMBLY INSTALLATION



Install the side rail assembly so that the balance link is at the front of the spring.

>>B<< SIDE RAIL ASSEMBLY MOUNTING SCREW INSTALLATION

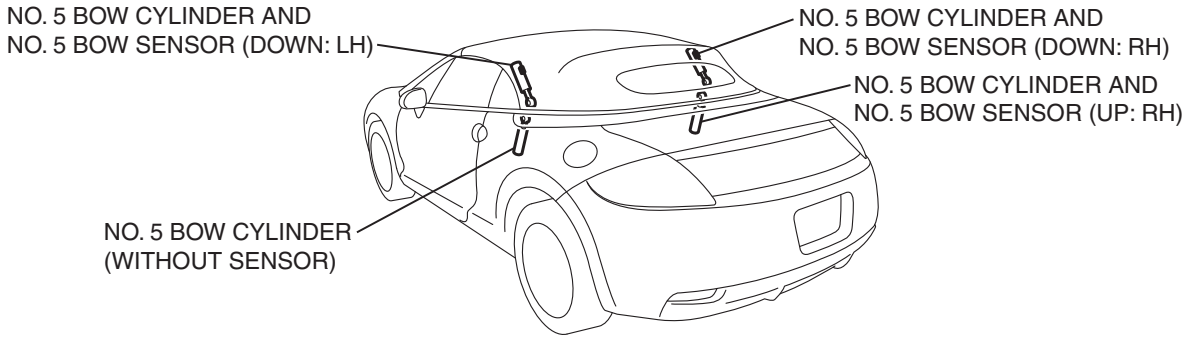


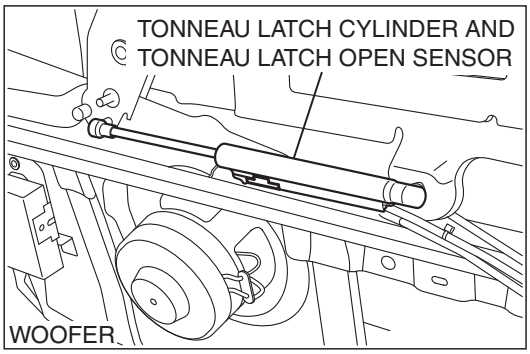
Tighten the side rail assembly mounting screws in the order shown.

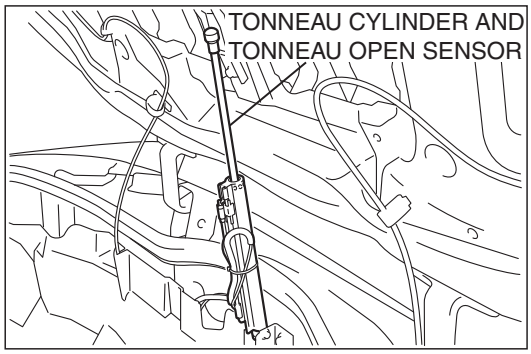
ACTUATORS

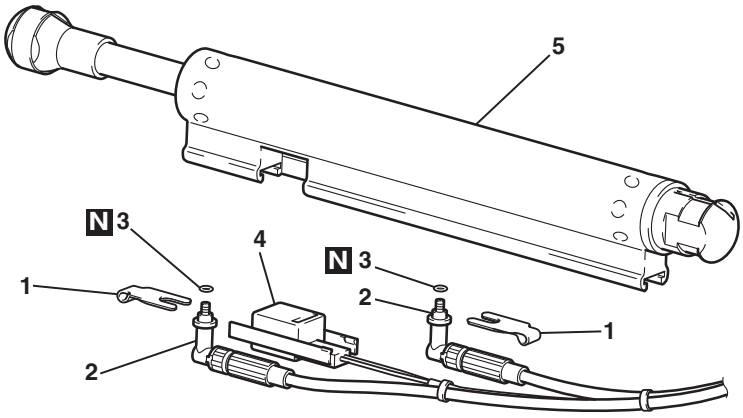
REMOVAL AND INSTALLATION

M1426214200023









AC511140AC

REMOVAL STEPS
1. RETAINER
2. HYDRAULIC HOSE
3. O-RING

REMOVAL STEPS (Continued)
4. SENSOR (HALL IC)
5. CYLINDER

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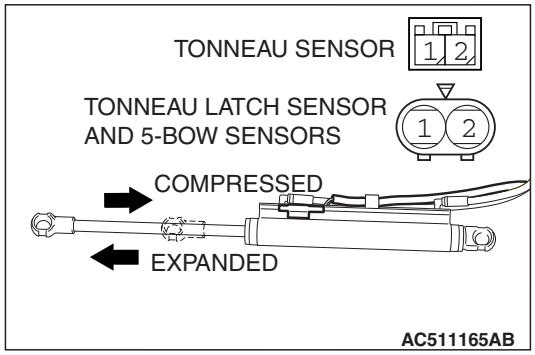
INSPECTION

M1426214300020

SENSOR (HALL IC) CHECK



Continuity between terminal 1 and terminal 2 when time when cylinder expanded and cylinder are compressed is checked.

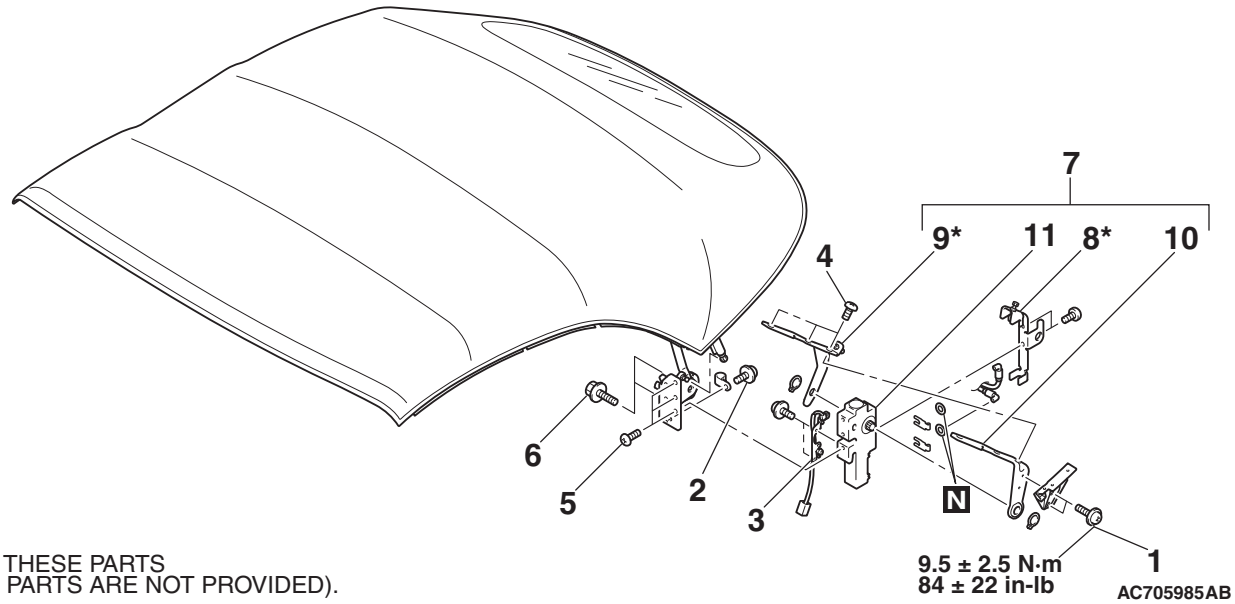
Sensor	Compressed	Expanded
TONNEAU SENSOR	Open circuit	Continuity exists (2 Ω or less)
TONNEAU LATCH SENSOR	Open circuit	Continuity exists (2 Ω or less)
5-BOW SENSOR (DOWN)	Continuity exists (2 Ω or less)	Open circuit
5-BOW SENSOR (UP)	Open circuit	Continuity exists (2 Ω or less)

ROTARY CYLINDER

REMOVAL AND INSTALLATION

M1426215200026

Post-installation Operation
- Convertible Top Fit Adjustment (Refer to P.42-245.)
- Bleeding of The Hydraulic System (Refer to P.42-269.)



NOTE
* : RE-USE THESE PARTS
(REPAIR PARTS ARE NOT PROVIDED).

REMOVAL STEPS
- QUARTER TRIM BRACKET (REFER TO GROUP 52A, TRIMS P.52A-30.)

<<A>> 1. FOLDING TOP SIDE COVER BRACKET MOUNTING SCREWS
2. HOSE CLAMP SCREW

<<B>>
- NO. 5 BOW LOCK CYLINDER*1 (REFER TO P.42-297.)

<<B>> 3. POSITION SENSOR*2

<<C>> >>B<< 4. GUIDE LINK MOUNTING SCREWS

REMOVAL STEPS (Continued)

5. MAIN PIVOT BRACKET MOUNTING SCREWS
6. BOLTS
7. ROTARY CYLINDER ASSEMBLY
8. UP STEP/DOWN STEP BRACKET
9. GUIDE LINK
10. REAR DRIVE LINK

<<D>> >>A<< 11. ROTARY CYLINDER

*NOTE: *1: Do not remove the oil line of the No.5 bow lock cylinder.*

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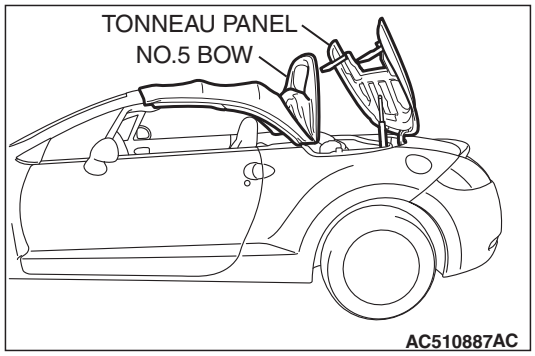
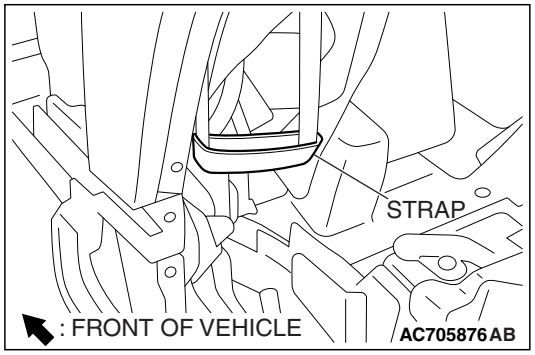
*NOTE: *2: Do not remove the wiring harness connector connection of the position sensor.*

REMOVAL SERVAICE POINTS

<<A>> FOLDING TOP SIDE COVER BRACKET MOUNTING SCREWS REMOVAL

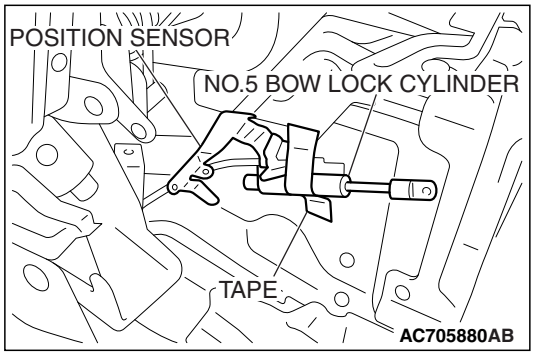


1. No.5 bow and tonneau panel are opened.



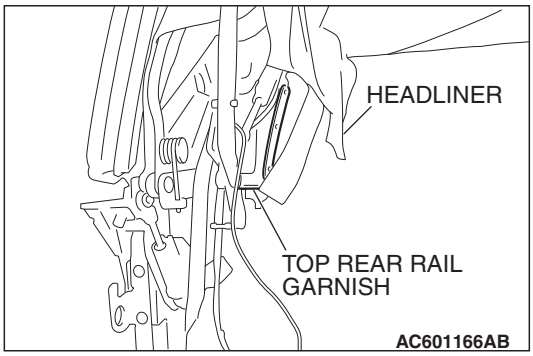
2. Remove the strap as shown in the figure.
3. Remove the folding top side cover bracket mounting screws.

<<B>> NO.5 BOW LOCK CYLINDER /POSITION SENSOR REMOVAL



Remove the No.5 bow lock cylinder and position sensor and attach them to a nearby parts with an adhesive tape as shown in the figure.

<<C>> GUIDE LINK MOUNTING SCREWS REMOVAL



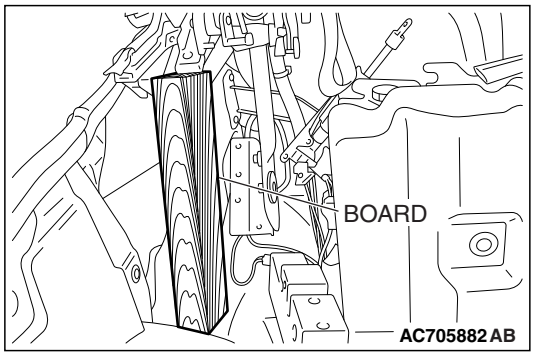
Remove three clips fixed to the top rear rail garnish. Turn up the headliner and remove the guide link mounting screws.

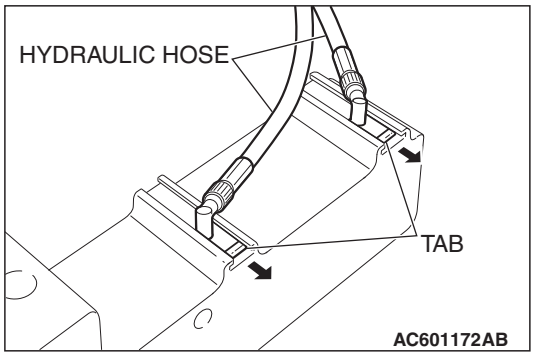
NOTE: Do not re-use the clips.

<<D>> ROTARY CYLINDER REMOVAL

⚠ CAUTION

Removing the rotary cylinder causes the convertible top assembly lower, so use a board to support the convertible top assembly.





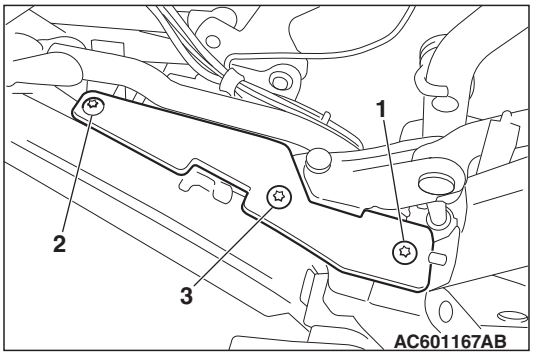
Slide the tab in the direction of the arrow, and remove the hydraulic hose.

INSTALLATION SERVICE POINTS

>>A<< ROTARY CYLINDER INSTALLATION

⚠ CAUTION

Since the o-ring at the connection of the rotary cylinder and the hydraulic hose is small and delicate, be careful when installing it.



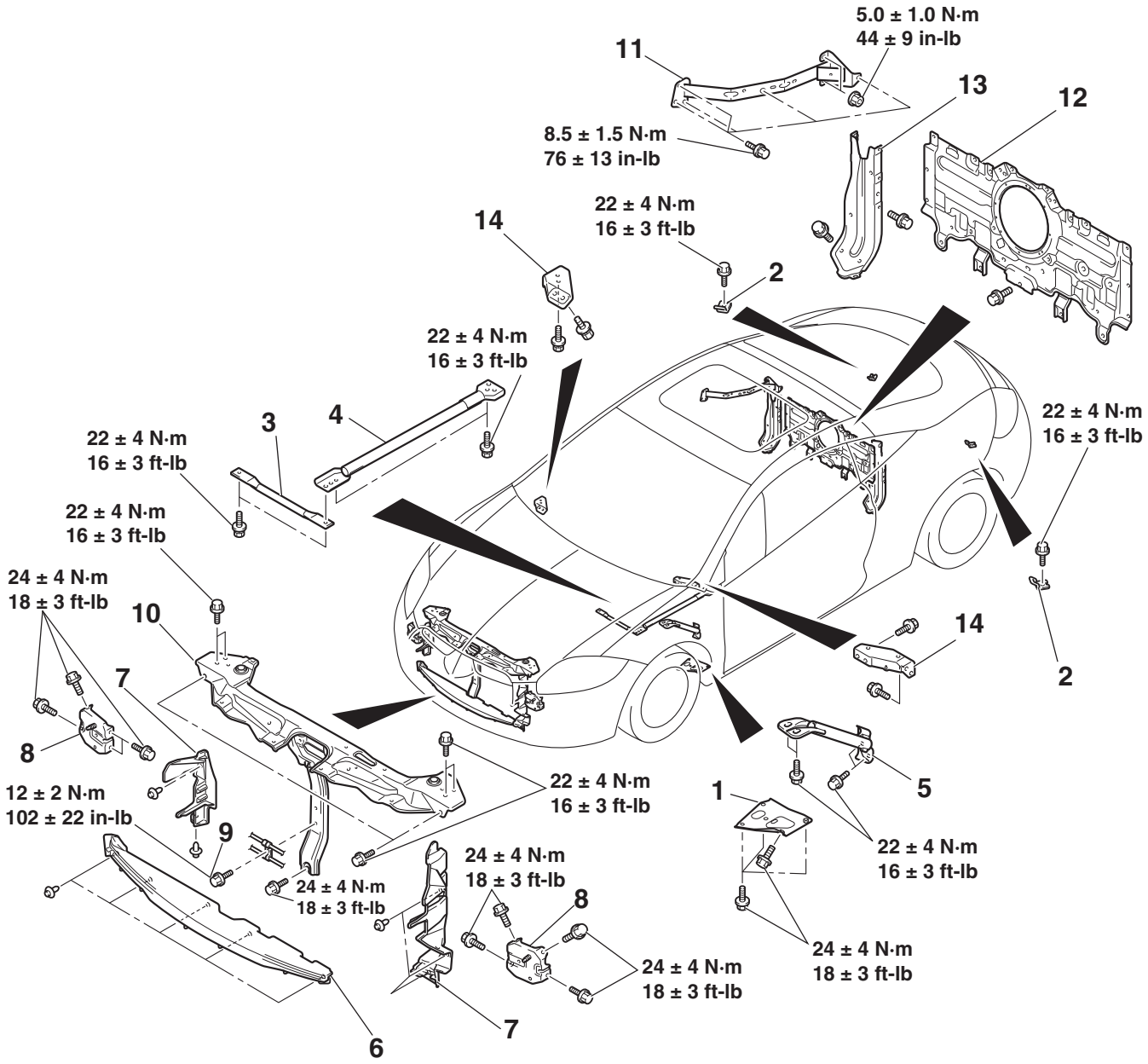
>>B<< GUIDE LINK MOUNTING SCREWS INSTALLATION

Tighten the guide link mounting screws in the order as shown in the figure.

LOOSE PANEL

REMOVAL AND INSTALLATION

M1421003100302



AC511075AB

REMOVAL

>>A<< 1. FRONT PILLAR GUSSET <CONVERTIBLE>
2. CHILD RESTRAINT BRACKET <HATCHBACK>

FLOOR BACKBONE SIDE BAR REMOVAL STEPS

3. FRONT FLOOR BACKBONE BRACE
4. FLOOR BACKBONE SIDE BAR <CONVERTIBLE>

UPPER FRAME TO FRONT PILLAR BRACE REMOVAL STEPS

- SPLASH SHIELD (REFER TO P.42-12.)

5. UPPER FRAME TO FRONT PILLAR BRACE

AIR GUIDE PANEL REMOVAL STEPS

- FRONT BUMPER ASSEMBLY (REFER TO GROUP 51, FRONT BUMPER AND RADIATOR GRILLE P.51-2.)

6. AIR GUIDE PANEL CENTER

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AIR GUIDE PANEL REMOVAL STEPS (Continued)

- FRONT BUMPER REINFORCEMENT ASSEMBLY (REFER TO GROUP 51, FRONT BUMPER AND RADIATOR GRILLE P.51-2.)

7. AIR GUIDE PANEL SIDE

FRONT BUMPER REINFORCEMENT BRACKET REMOVAL STEPS

- FRONT BUMPER REINFORCEMENT ASSEMBLY (REFER TO GROUP 51, FRONT BUMPER AND RADIATOR GRILLE P.51-2.)

7. AIR GUIDE PANEL SIDE
8. FRONT BUMPER REINFORCEMENT BRACKET

FRONT END STRUCTURE BAR REMOVAL STEPS

- FRONT BUMPER ASSEMBLY (REFER TO GROUP 51, FRONT BUMPER AND RADIATOR GRILLE P.51-2.)
- HOOD DAMPER AND HOOD LATCH (REFER TO P.42-9.)

9. COOLER TUBE ASSEMBLY MOUNTING BOLT
10. FRONT END STRUCTURE BAR

SIDE GUARD BAR REMOVAL STEPS

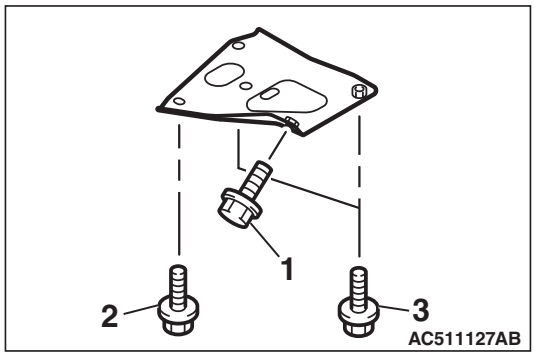
- QUATER TRIM BRACKET (REFER TO GROUP 52A, TRIMS P.52A-30.)

11. SIDE GUARD BAR <CONVERTIBLE>
12. REAR SEATBACK PANEL <CONVERTIBLE>
13. REAR SEAT BELT REINFORCEMENT <CONVERTIBLE>

FRONT PILLAR GUSSET REMOVAL STEPS

- INSTRUMENT PANEL ASSEMBLY (REFER TO GROUP 52A, INSTRUMENT PANEL ASSEMBLY P.52A-19.)

14. FRONT PILLAR GUSSET <CONVERTIBLE>



INSTALLATION SERVICE POINT

>>A<< FRONT PILLAR GUSSET <CONVERTIBLE>

Tighten the front pillar gusset mounting bolts to the specified torque below in the order shown in the figure.

Tightening torque: 24 ± 4 N·m (18 ± 3 ft-lb)

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

M1421005300313

Item	Specification
Hood	
Hood hinge bolt (body side)	12 ± 2 N·m (102 ± 22 in-lb)
Hood hinge bolt (hood side)	12 ± 2 N·m (102 ± 22 in-lb)
Hood hinge nut (body side)	12 ± 2 N·m (102 ± 22 in-lb)
Hood latch bolt	9.0 ± 2.0 N·m (80 ± 17 in-lb)
Fuel filler lid	
Fuel filler neck reinforcement plate bolt	5.0 ± 1.0 N·m (44 ± 9 in-lb)
Strut tower bar	
Strut tower bar bolt	12 ± 2 N·m (102 ± 22 in-lb)
Strut tower bar nut	12 ± 2 N·m (102 ± 22 in-lb)
Door	
Door check bolt (body side)	9.0 ± 2.0 N·m (80 ± 17 in-lb)
Door check bolt (door side)	5.0 ± 1.0 N·m (44 ± 9 in-lb)
Door hinge bolt (body side)	27 ± 5 N·m (20 ± 4 ft-lb)
Door hinge bolt (door side)	21 ± 4 N·m (16 ± 2 ft-lb)
Door latch assembly screw	5.9 ± 1.0 N·m (52 ± 9 in-lb)
Door outside handle bolt	9.0 ± 2.0 N·m (80 ± 17 in-lb)
Door switch screw	3.9 ± 1.0 N·m (35 ± 8 in-lb)
Door window module assembly bolt	9.0 ± 2.0 N·m (80 ± 17 in-lb)
Delta window glass bolt	10 ± 1 N·m (89 ± 8 in-lb)
	27 ± 1 N·m (20 ± 1 ft-lb)
Delta window glass nut	10 ± 1 N·m (89 ± 8 in-lb)
Striker screw	24 ± 3 N·m (18 ± 2 ft-lb)
Liftgate	
Ball joint	13 ± 2 N·m (111 ± 22 in-lb)
Liftgate gas spring bracket bolt	5.0 ± 1.0 N·m (44 ± 9 in-lb)
Liftgate hinge bolt (liftgate side)	12 ± 2 N·m (102 ± 22 in-lb)
Liftgate hinge nut (body side)	24 ± 4 N·m (18 ± 3 ft-lb)
Liftgate latch bolt	22 ± 4 N·m (16 ± 3 ft-lb)
Striker screw	22 ± 4 N·m (16 ± 3 ft-lb)
Trunk lid	
Trunk lid hinge bolt	13 ± 2 N·m (111 ± 22 in-lb)
Trunk lid hinge nut (trunk lid side)	13 ± 2 N·m (111 ± 22 in-lb)
Trunk lid latch bolt	9.0 ± 2.0 N·m (80 ± 17 in-lb)
Striker screw	5.0 ± 1.0 N·m (44 ± 9 in-lb)
Sunroof	
Roof lid glass screw	5.5 ± 0.5 N·m (49 ± 4 in-lb)
Sunroof assembly nut	7.0 ± 1.0 N·m (43 ± 8 in-lb)

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Item	Specification
Sunroof motor bolt	4.5 ± 0.5 N·m (40 ± 4 in-lb)
Loose panel	
Child restraint bracket bolt	22 ± 4 N·m (16 ± 3 ft-lb)
Cooler tube assembly bolt	12 ± 2 N·m (102 ± 22 in-lb)
Front bumper reinforcement bracket bolt	24 ± 4 N·m (18 ± 3 ft-lb)
Front end structure bar bolt	22 ± 4 N·m (16 ± 3 ft-lb)
	24 ± 4 N·m (18 ± 3 ft-lb)
Front floor backbone brace bolt	22 ± 4 N·m (16 ± 3 ft-lb)
Upper frame to front pillar brace bolt	22 ± 4 N·m (16 ± 3 ft-lb)

SERVICE SPECIFICATIONS

M1421000300482

<DOOR>

Item	Standard value
Door inside handle knob play mm (in)	73.6 (2.90)
Door inside handle lock knob stroke mm (in)	14.9 ± 0.5 (0.59 ± 0.020)
Door outside handle play mm (in)	63.5 (2.5)
Power window operation current A	5 ± 1 [Power supply voltage 14.5 ± 0.5V, 25°C (77°F)]

<KEYLESS ENTRY SYSTEM>

Item	Standard value
Transmitter battery V	2.5 – 3.2

<SUNROOF>

Item	Standard value
Roof lid glass operation current A	7 or less [at 20°C(68°F)]

LUBRICANT

M1423000400032

<DOOR, TRUNK LID>

Item	Specified lubricant
Cylinder sub-assembly	Repair kit grease

SEALANT AND ADHESIVES

M1421000500248

<WINDOW GLASS>

Item	Specified adhesive
Liftgate window glass	3 M™ AAD part No. 8609 super fast urethane and 3 M™ AAD part No. 8608 super fast urethane primer or equivalent
Quarter window glass	
Windshield	

<LIFTGATE>

Item	Specified sealant	Remark
Liftgate hinge	3M™ AAD Part No. 8531 Heavy drip check sealer, 3M™ AAD Part No. 8646 Automotive joint and seam sealer or equivalent	Body sealer

Item	Specified adhesive tape
Liftgate weatherstrip	Adhesive tape: Double-sided tape [11 mm (0.43 in) width, 32 mm (1.26 in) length and 1.1 mm (0.043 in) thickness]

<CONVERTIBLE TOP>

Item	Specified fluid
Hydraulic pump	MITSUBISHI Genuine fluid part No. 6559A074

COMPONENT IDENTIFICATIONS

M1421005400291

<DOOR CHECK>

Applicable location	Identification mark
LH	P2FL
RH	P2FR